DOCUMENT RESUME

ED 377 936 JC 950 074

TITLE The Power of Partnership: Economic Development Program of the California Community Colleges. Annual Report 1992-1993.

INSTITUTION California Community Colleges, Sacramento. Office of the Chancellor.

PUB DATE [94]

NOTE 49p.; Contains numerous photographs which may not reproduce well.

PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Community Colleges; Cooperative Programs; *Economic Development; Education Work Relationship; *Labor Force Development; *Outcomes of Education; *Partnerships in Education; Program Descriptions; Retraining; *School Business Relationship; Two Year Colleges

IDENTIFIERS *California Community Colleges; Small Business Centers

ABSTRACT

California Community Colleges (CCC's) provide a statewide network of centers and programs to assist the state's businesses and industries with education, training, and information services. This report describes outcomes for these economic development partnerships between the CCC's and business, industry, and government during the 1992-93 fiscal year, focusing on programs and services directly funded by the Chancellor's Office. Following introductory materials, including a list of development partnerships and their locations, part one provides an overview of the CCC's Economic Development Network (ED>Net), describing partnerships with government and industry and efforts to provide technical assistance to colleges to improve the delivery of these services. Part two reviews the CCC's economic development agenda, highlighting partnerships for local economic development; strategies for defense conversion; programs to enhance workforce skills; and job opportunities created through small business support, including programs for special populations and new services for business. Part three focuses on efforts to meet changing workforce needs, including new and updated curricula, employer-based training, technology transfer to help defense workers find new jobs, and customized contract services. A special insert provides descriptions of seven partnerships between CCC's and small businesses to establish economic development programs, focusing on the development and results of the programs. (Index included.) (BCY)

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The POWER of PARTNERSHIP

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CALIFORNIA COMMUNITY COLLEGES MAKE A DIFFERENCE

Economic Development Program of the California Community Colleges Annual Report 1992-1993

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CHANCELLOR'S OFFICE, CALIFORNIA COMMUNITY COLLEGES

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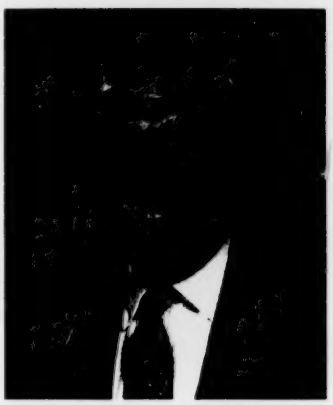
Letter from Chancellor Mertes

California Community Colleges provide a statewide network of centers and programs to assist the state's businesses and industries with education, training, and information services. This report of the economic development activities of the California Community Colleges describes the impact of these partnerships between our colleges and business, industry, and government during the 1992-93 fiscal year.



During the past year, these economic development programs have focused on (1) supporting local economic development efforts, (2) developing resources to meet changing needs, with special emphasis on defense conversion activities, and (3) building the capacity of the colleges to meet the state's demands for a skilled workforce.

This report does not attempt to describe all the economic development activities of the 107 colleges in the California Community Colleges system. It focuses instead on programs and services directly funded by the Chancellor's Office for the 1992-93 fiscal year. Special Chancellor's Office grants to individual colleges and districts have enlarged and strengthened the statewide network developed to address the needs of small and medium-sized businesses.

Through strategic resource leveraging and interagency cooperation, funded community college economic development activities have more than doubled the money available for programs and services designed to prepare California's businesses and workforce for the 21st century.

David Mertes

David Mertes
CHANCELLOR, CALIFORNIA COMMUNITY COLLEGES

Introduction

THE RESOURCES OF 107 COLLEGES FOR CALIFORNIA'S ECONOMIC DEVELOPMENT

This report provides information on the progress and success of economic development programs funded by the Chancellor's Office of the California Community Colleges during the 1992-93 fiscal year. The report does not reflect all the myriad economic development activities of the system's 107 colleges. "The Power of Partnership" is based on a compilation of findings from a comprehensive review of documents and reports of 95 funded projects as well as random validation of reported data. Managers of each project submitted a final report in which they described performance and provided data on program participants, activities and services, impacts, partnerships, and revenue/expenditures including matching funds and contributions.

A System for Access and Response provides an overview of the California Community College Economic Development Network, the vehicle for strengthening the delivery of economic development services by community colleges throughout the state. ED>Net strategies include (1) improving business and industry access to community college programs and services, and (2) providing technical assistance to local colleges and groups of colleges to increase their capacity to provide these programs and services. ED>Net staff serve as liaisons to support local projects, and network in statewide economic development activities.

The Strategic Agenda shows how the statewide agenda addresses the needs of local communities, with emphasis on their relationship to defense conversion activities in the state. The individual strategic priorities, "initiatives," are examined in terms of service delivery and innovative programmatic responses to local needs. Initiatives include advanced manufacturing technologies, workplace learning resources, small business development, and international trade development. These initiatives are carried out

through local college partnerships that benefit communities throughout the state. The systematic sharing of innovations and resources statewide strengthens and enhances local and regional efforts.

Capacity-Building: State and Local Development focuses on successful programs that enhanced the capacity of the colleges to (1) help those already in the workforce meet new job challenges, and (2) deliver training to prepare Californians to find jobs and succeed in the workplace of the 21st century. Capacity-building occurs through curriculum and vocational program development, faculty in-service training, and support for the dissemination and implementation of new modes of instructional delivery, including customized workplace education and technology transfer.

ECONOMIC DEVELOPMENT PROGRAMS FUNDED BY THE CHANCELLOR'S OFFICE, 1992-93

Small Business Centers

Bakersfield
Compton
Gavilan
Los Angeles Southwest
Los Rios District
Mt. San Antonio
Napa Valley
Rancho Santiago
San Joaquin Delta
Santa Rosa
Sierra
Solano
Southwestern
Vista
Yuba

Intensive In-Service Programs (TQM or EKMT

Allan Hancock
Bakersfield
Golden West
Irvine Valley
Las Positas
Mission
Napa Valley
Sierra

Central and Regional Support Services

American River
Bakersfield
Chaffey
College of the Desert
Compton
Diablo Valley
Fullerton
Gavilan
Hartnell
Los Rios District
Oxnard
Rio Hondo
State Center District

Employer-Based Training Programs

College of the Desert
College of the Redwoods
Diablo Valley
Long Beach
Yosemite District

In-Service Training Programs

Allan Hancock
Chabot
Cypress
Foothill-DeAnza District
Fullerton
Glendale
Golden West
Las Positas
Los Angeles District
Marin
Mt. San Antonio
Napa Valley
Peralta District
Saddleback
San Diego Mesa
San Francisco
San Joaquin Delta
Santa Barbara
Southwestern

Centers for Applied Competitive Technologies

California Manufacturing Technology Center
DeAnza
El Camino
Fresno
Fullerton
Glendale
San Diego
Sierra

Workplace Learning Resource Centers

American River
El Camino
Fullerton
Merced
Mission
Oxnard
Rancho Santiago
San Diego District
San Francisco

Centers for International Trade Development

Citrus
Coastline
Fresno (Export Program)
Los Rios District
Merced
Oxnard
Riverside
Southwestern
Vista

part ONE

A System for Access and Response

The California Community College Economic Development Network was established in 1988 as a delivery system to leverage the educational and training resources of the 107 community colleges for local, regional, and statewide economic development. The Chancellor's Office provides incentive funding to colleges to enhance local and statewide efforts and leverage state, federal, and private dollars. It also provides a support mechanism for technical assistance, coordination, and optimization of resources. Leadership strategies produce a systematic and coordinated response to state economic development needs, making the total impact of the colleges' myriad programs vastly more than the sum of their component parts.

California is the world's eighth largest economy. Given the size of the state and its large and diverse business base, coordinating the development and delivery of services is imperative. Through the toll-free ED>Net phone line, the California Community Colleges provide a single point of access to economic development services for business and industry throughout the state.

To meet its primary goal of coordinating the response of the California Community Colleges to workforce and business needs, ED>Net provides technical assistance and an on-line information system to assist local colleges in their economic development initiatives.

STATEWIDE STRATEGIES, STATEWIDE PARTNERSHIPS

The economic development efforts of the California Community Colleges rest on a solid foundation of cooperative relationships with public and private business and industry partners, state and federal agencies, and other educational institutions. Cooperative efforts leverage resources to address economic development needs efficiently and effectively. During 1992-93 ED>Net partnered with many key players on statewide strategies fostering economic development.

- Working with the following organizations, ED>Net coordinated activities related to the Defense Conversion Act:
  - > the Interagency Task Force,
  - > Project California of the California Council of Science and Technology,
  - > the JTPA Statewide Advisory Committee, and
  - > the Los Angeles County and Los Angeles City Private Industry Councils.

OUTCOMES: A number of colleges developed proposals to submit to the Advanced Research Projects Agency for Technology Reinvestment Program funds. ED>Net partnered with University of California, Irvine, and 32 public and private entities on a proposal for California ACCESS. This proposed on-line information service was designed to improve research and technology interactions between education and industry.

- ED>Net partnered with the state Employment Training Panel, the California Trade and Commerce Agency, and private industry to submit a proposal to the National Institute of Standards and Technology (NIST) for a manufacturing technology center.

OUTCOME: A $12.9 million award from NIST and contributions from public and private partners enabled establishment of the $36-million California Manufacturing Technology Center, located at El Camino College.

■ ED>Net worked with the State Department of Education's Adult Education Steering Committee to develop a comprehensive field document.

OUTCOME: The "Providers Manual for Workplace Learning Programs" serves as an integral part of the statewide plan for workplace learning programs.

■ ED>Net worked with the Trade and Commerce Agency to co-sponsor Small Business Development Centers and the Business Environmental Assistance Center. Small Business Development Centers worked with partners such as SCORE (Service Corps of Retired Executives), cities, and chambers of commerce to provide services to small and medium-sized businesses at locations across the state.

OUTCOMES: See success stories throughout report and in special insert section.

■ ED>Net worked with the Partnership for Environmental Technology Education (PETE) and the national laboratories for transfer of commercially viable environmental technologies, environmental hazardous materials curriculum development, instructor training, and equipment assistance.

OUTCOMES: Eight instructors participated in eight-week summer internships, and 14 instructors completed the 40-hour hazardous waste operator certification training.

■ ED>Net developed an agreement with American College Testing (ACT) whereby the Workplace Learning Resource Centers are serving as field test sites for Work Keys. This assessment process measures secondary and post-secondary students' basic skills with reference to skill levels needed in the workplace.

OUTCOME: The California Community Colleges are the first in the state to have this tool, which will be offered in early 1994 for business and industry use in assessing new employees.

■ ED>Net partnered with the state Employment Training Panel, the state's ten prime aerospace contractors, and manufacturing companies to provide California Supplier Improvement Program (CalSIP) total quality management training.

OUTCOME: Five hundred sixty-two employees of 131 companies across the state were trained.

■ In response to the civil disturbances in Los Angeles in spring 1992, ED>Net worked with the President's Task Force, the governor's revitalization effort, the Department of Housing and Urban Development, Rebuild L.A., and the California Trade and Commerce Agency to coordinate the colleges' response.

California Community College Economic Development Network Services, 1992-93

ACTIVITIES	CO.S TARGETED*	CO.S SERVED	HOURS
Inquiries/Requests	10,338	25,280	
Counseling	5,680	9,622	22,163
Technical Services		1,388	2,947
Information Dissemination	12,602	27,693	

Note: *Does not include numbers from Centers for Applied Competitive Technologies

California Community College Economic Development Network Programs, 1992-93

ACTIVITIES	NO. OF EVENTS	NO. OF PARTICIPANTS	NO. OF COMPANIES
Presentations	88	2,830	2,026
Workshops	692	12,108	7,939
Courses	146	4,554	3,093

Note: Small Business and International Trade Programs do not distinguish between individuals and businesses

Resource Leverage

For each dollar of Chancellor's Office economic development funds invested, another $1.13 was generated in leveraged resources for education, training, technical assistance, information delivery, and enhancement of system capacity.

OUTCOMES: Assistance centers at Compton and Los Angeles Southwest each received one-year funding of $100,000 to provide immediate services, and the Eastern Los Angeles SBDC received $35,000 for coordination. Liaison work resulted in production of bilingual business materials and training for intake technicians for the four Neighborhood Opportunity Centers set up by the President's Task Force.

- ED>Net worked with Wells Fargo Bank on a $265,000 contract to provide education and training to business bankers throughout California.

OUTCOME: 195 bankers completed training provided by 11 community colleges in 1992-93.

NETWORK SUPPORT

The ED>Net central support staff fields inquiries from individuals and companies across the state regarding community college programs and training resources. In 1992-93, 417 companies used the toll-free 800 number as a source of centralized referral.

Central staff keep the machinery moving for the collaborative processes that improve colleges' service-delivery capacity. ED>Net operates with the shared expertise and resources of professionals via task groups, research and assessment projects, and technical assistance, facilitation, and training.

ED>Net provides marketing support for community college economic development programs and services. Printed materials are produced and disseminated regularly to help colleges inform business and industry about the kind of services available at their local colleges and how these services can benefit them. Over 58,000 quarterly *Connections* newsletters (four editions), 11,000 informational brochures, and 30,000 marketing pieces on ED>Net initiatives were distributed during 1992-93.

The electronic bulletin board system, CCC-InfoNet, facilitates dissemination of information to educators and the business community. ED>Net and individual colleges and districts, working through centers throughout the state, provide a wide variety of on-line information services for business and industry.

- The Business Environmental Assistance Center (BEAC) handled more than 1,000 calls in 1992-93, providing companies dial-up access to environmental data and compliance information.
- The Centers for International Trade provide on-line trade reference sources, including the National Trade Data Base and the Global Business and Education Network, to assist clients with trade leads and accurate information on international trade. Centers provided more than 8,000 trade leads in 1992-93.
- The Procurement Assistance Center at DeAnza College provided on-line procurement bid matching services in 1992-93 to nearly 1,000 small businesses seeking federal and state contracts. The

California Procurement Technical Assistance Network, CAPTAN, will provide this on-line assistance statewide in the coming year.

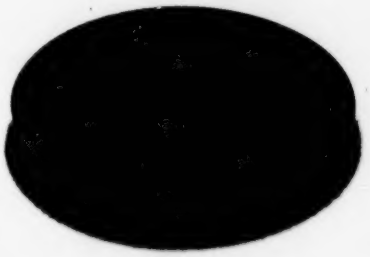
NETWORK PROGRAMS AND SERVICES

The California Community College Economic Development Network features decentralized, on-site service delivery and support. Community Colleges throughout the state host centers that provide a wide variety of customized programs and services for the state's businesses and industries. In 1992-93, the network expanded with the addition of three small business centers, three workplace learning centers, and environmental hazardous materials technician training programs at five additional colleges. The network includes:

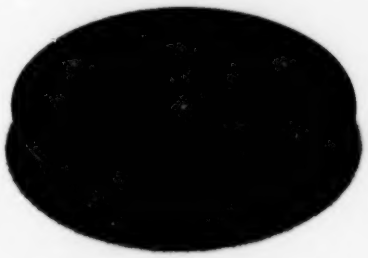
- 16 Small Business Development Centers (co-sponsored with Trade and Commerce and serving 31 counties), 4 Small Business Assistance Centers, Procurement Assistance Center (serving 35 counties), Patent Center, Small Business Innovation and Research Program, Business Clearinghouse
- 8 Centers for International Trade Development, affiliate trade center, University Center Export Program (UCEP) co-sponsored by the Small Business Administration
- 7 Workplace Learning Resource Centers
- 23 colleges in the Environmental Hazardous Materials Technology Consortium (6 more in process), Business Environmental Assistance Center
- National Institute of Standards and Technology/California Manufacturing Center, 8 affiliated Centers for Applied Competitive Technologies, CalSIP programs
- more than 90 colleges involved in contract education and publicly funded job-training grants
- more than 270 people working on executive, initiative, and advisory committees (including college, business, industry, and agency representatives)
- locally-based college economic development projects and workforce preparation programs
- 8 directors providing technical assistance and coordination
- 10 central staff providing logistical and marketing support and serving as clearinghouse for programs and services
- 8 regional host colleges providing linkage to local issues and the programs and staffs of 107 colleges
- corporate and local partners involved in these and other economic development projects

The California Community Colleges provide these services using the kind of systematic response that fits service delivery models described in current literature on organizational effectiveness. They have built an interorganizational model uniting the efforts of 107 separate colleges with a multitude of business, industry, and agency partners to leverage value-added services statewide. Partnerships and strategies to strengthen the state's manufacturing sector, improve workforce skills, assist small business formation and retention, and help California compete in the global marketplace are described in the next section.

Participation of Women and Minorities



WOMEN - 58%



ETHNIC MINORITIES - 44%

Almost 60 percent of the participants in 1992-93 programs for which data were available were women. Over 40 percent of the participants in these programs were from minority groups. This represents significant access to opportunities in the business sector.

part TWO

The Strategic Agenda

The economic development agenda of the California Community Colleges represents the vision of those involved in economic development statewide of the vital role community colleges can play in the state's economic revitalization. Economic development plays out differently in the various rural, urban, and suburban venues of the 107 colleges. In the 1992-93 fiscal year defense conversion and workforce redeployment have taken on greater prominence in community college efforts as the impact of defense downsizing increases. Community college economic development programs and services for 1992-93 focused on:

- helping the manufacturing sector strengthen its processes, products, and workforce to remain competitive in the global economy;
- strengthening small businesses, the primary source of new job development;
- helping business and industry compete in the global marketplace through international trade; and
- improving workforce skills to ensure productivity.

PARTNERSHIPS FOR LOCAL ECONOMIC DEVELOPMENT

Each center funded by the Chancellor's Office works with local groups to (1) identify ways to expand services and take advantage of new opportunities, (2) address the needs of special groups, and (3) meet local needs in a coordinated way. Center partnerships for 1992-93 included:

- Rancho Santiago College's Workplace Learning Resources Center worked with the community-based interagency Workforce 2000 coalition and the Santa Ana Economic Development Agency to identify, and provide services to meet, the literacy needs of businesses in the Santa Ana area. The Oxnard center worked with the Ventura County Economic Development Department, the county's Economic Development Consortium, and local Chambers of Commerce on a similar project.

- The Huntington Beach Small Business Assistance Center, jointly started by Rancho Santiago College, the Orange County Small Business Center, the city of Huntington Beach and its Chamber of Commerce, and GTE California, have been credited with helping Huntington Beach secure the endorsement of *California Business* magazine as the number one place in the state to operate a business.

- Vista College's East Bay Small Business Center in Oakland worked to revitalize downtown areas with local partners in three Alameda County cities (Alameda, Hayward, Livermore) as part of the Downtown Business Assistance Program. The center provided three seminars on marketing and increasing profits to approximately 30 businesses.

- Workshops and business counseling provided by the Mt. San Antonio College Small Business Development Center and the Citrus College Center for International Trade Development were highlighted when the city of Duarte's economic renewal program received the Avant Garde Award of Merit from the California Association for Local Economic Development.

- Staff from Riverside College's Center for International Trade Development staff chair the Summit International Trade Action Group (an Inland Empire trade task force of industry, business, bipartisan congressional members, education, and economic development organizations).

STRATEGIES FOR DEFENSE CONVERSION AND WORK FORCE REDEPLOYMENT

Community colleges are working with one another and with community partners to avert economic disaster when military bases close. The Merced College CITD, for example, has partnered with the Merced County Department of Economic and Strategic Development to identify businesses impacted by base closure that could establish new international markets. The center is also working with the Joint Powers Authority to study the possible use of Castle Air Force Base as an export/import air cargo center or foreign trade zone.

- The Weill Institute SBDC of Bakersfield College initiated a project with China Lake Naval Weapons Center, California State University, Bakersfield, and Cerro Coso College to increase technology transfer and assist entrepreneurial activity in the Ridgecrest area. Several factors make this a promising venture. While China Lake employs more than a thousand Ph.D.s, the potential commercial application of the sophisticated technology they develop has not been exploited. Cal State graduates about 65 MBAs a year; they generally seek employment outside the area due to meager job opportunities. Area community colleges have strong industrial technology programs for technician-level training in state-of-the-art manufacturing techniques, but there are fewer than 800 local manufacturing companies. To date, 90 commercial applications for technology developed at China Lake have been identified; project participants plan to use a combination of resources to help establish 20 technology-based businesses in the Ridgecrest area in the coming year.

- The Orange County Small Business Development Center initiated a program for displaced aerospace, defense, and military personnel called the Business Ownership Service System (BOSS). Nineteen displaced workers completed assessments and a two-month intensive training program for starting and managing their own businesses. ABC's "World News Tonight" with Peter Jennings featured the program, and it has been widely cited as an example of a successful approach to coping with the growing number of workers displaced from defense-related industries.

- Fullerton College, also a JTPA Comprehensive Vocational Career Assessment Center, worked with the City of Anaheim Service Delivery Area (SDA), the Department of Social Services, the Department of Rehabilitation, and private groups on Technology Reinvestment Program proposals to train dislocated workers. In 1992-93, the college trained 22 environmental hazardous materials technicians and 24 certified computer network engineers, generating $274,770 in training fees. Training in computer-assisted design and manufacturing will be added in early 1994.

- As a result of technical assistance provided by ED>Net, Cerritos College received an initial grant of $135,000 from Great Lakes Composites Consortium. This grant funds planning for a Composites Teaching Factory and development of a

proposal to fund a $1.4 million federal Technology Reinvestment Project for the Teaching Factory. The consortium, which operates the Center of Excellence for Composites Manufacturing Technology funded by the U.S. Navy, intends to establish a satellite site on the West Coast.

- The East Bay Small Business Center in Oakland developed a survey to assess the needs of small businesses that supply military bases in the wake of base closures. They identified some 5,000 businesses in selected zip code areas that had current contacts with bases; they will survey a sample of 1,500 in early 1994. Survey results will be used to launch programs targeting these suppliers.

Workplace Learning Resource Center Services, 1992-93

CUSTOMIZED SERVICES	NUMBER OF INDIVIDUALS SERVED	NUMBER OF COMPANIES SERVED	SERVICE HOURS
Technical Services			
Occupational/Literacy Needs Analysis		32	88
Learning Lab	97	3	582
Employee Education Plans		6	238
Customized Curriculum Development		24	865
Tutoring	82	5	335
Assessments	1,709	34	1,500
Career Counseling	330	3	60
Workshops/Classes/Courses	1,588	68	11,098

WORKFORCE SKILLS TO ENSURE PRODUCTIVITY

The Chancellor's Office Economic Development Program has helped colleges implement a variety of programs to improve the quality of the state's workers through the delivery of workplace literacy resources.

Seven Workplace Learning Resource Centers focus the resources of the colleges on workplace literacy needs. Centers provide assessment, task analysis, and instruction in basic skills, English as a Second Language (ESL), literacy, computation, problem-solving, analytical skills, and teamwork. They identify, develop, and test model strategies, deliver them to the workplace, train others in the methods, and disseminate resource materials. In addition, they assist companies, unions, and agencies in defining workforce preparation needs. The first four Workplace Learning Resource Centers were funded in mid-fiscal year 1991; three more received funding in mid-1992.

In 1992-93, these Workplace Learning Resource Centers surveyed 6,754 local companies for workplace needs and interests, negotiated 70 contracts with business and industry, and served 3,169 individuals. These services involve customizing both the content and the delivery of community college courses to meet specific workplace needs.

The centers worked with 227 college faculty to expand their capacity to deliver workplace training in such areas as: review of integrated learning programs, alternative methods for delivering training, competency training, and instructional practice and computer-assisted instruction—including exploration of networks linking worksites and campus to enable flexible scheduling.

The Workplace Learning Resource Centers provide resources to other colleges as well as to business and industry. In 1992-93, the centers researched and shared methodologies and materials including OTAN (the on-line Outreach and Technical Assistance Network) and resources from nationally recognized programs and services such as Texas Community

College Technical Institute for Workforce Literacy and the National Institute for Literacy.

Benefits to Business

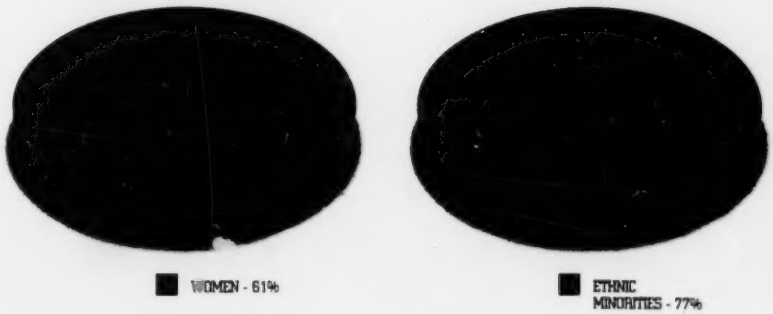
Small and medium-sized businesses across the state took advantage of Workplace Learning Resource Center services during 1992-93. The centers broadened the threshold of opportunity for workers, and provided them the ability to more fully participate in and contribute to their workplaces and communities. The following stories illustrate the kinds of assistance provided by the centers.

- The Fullerton Workplace Learning Center worked with an international service corporation to develop a customized assessment and needs analysis process to determine why the customer service program was not working at specific franchise locations. The center evaluated the oral communication skills of a cross-section of franchise owners (61) and employees (122). The center based its analysis on culture, job position, and geographic surroundings in relation to the owner's cultural background. Staff made recommendations to the company related to: selection of future franchise owners, training curriculum and methodology for the customer service program for limited-English-proficient owners, and cultural awareness training related to dealing with American consumers.

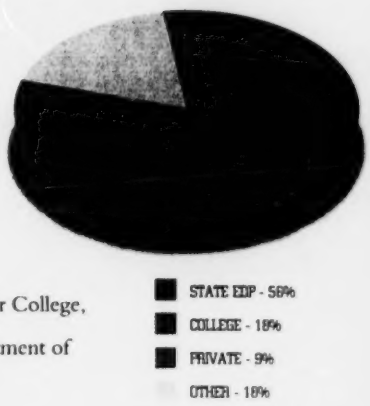
- Using funding for the special population of single parents, displaced homemakers, and single pregnant women, the El Camino Workplace Learning Resource Center created and distributed "What Works at Work," a stand-alone study guide designed to improve the interpersonal communication skills of the target population. Based on scripts for a proposed public television (KCET) video production, the study guide is comprised of 12 vignettes depicting workplace situations and interactions. The guide is suitable for classroom or counseling sessions. As part of the project, 100 copies of "What Works at Work" have been disseminated to the gender equity program officer at each of the 107 colleges.

- The Los Rios Community College District's Workplace Learning Resources Center, located at American River College, worked with the Sacramento County Department of Public Works to develop the "Pathways to Opportunity" basic skills program. Immediate commitment and support from the Sacramento County Board of Supervisors, the Affirmative Action Committee, and the International Union of Operating Engineers-Stationary, Local 39, was crucial to the successful implementation of the program. Thirty employees of the solid waste management and highway maintenance divisions of the 1,750-member department received 30 hours of basic math or reading/writing instruction in a 12-week session. Skill levels increased an average of one to two levels. Employees from the traffic maintenance division are enrolled in the second phase of the ongoing program.

WORKPLACE LEARNING RESOURCE CENTERS:
Participation of Women and Minorities



Resource Leverage



Centers leveraged economic development funds with VATEA (Vocational and Technical Education Act) funds, college matches, and other contributions, and also generated income as a result of contract education for an 80 percent increase in program resources supporting literacy improvement.

JOB OPPORTUNITIES THROUGH SMALL BUSINESS SUPPORT

The vitality of California's small businesses is becoming increasingly important as the state looks to them to stimulate the state's economy and provide new jobs. In 1992-93, the Chancellor's Office Economic Development Program responded by assisting small businesses through a statewide resource network that fosters small business formation, innovation, and retention.

Small Business Center Services, 1992-93

ACTIVITIES	CO.S TARGETED	CO.S SERVED	HOURS
Inquiries/Requests	6,568	14,822	
Counseling	5,027	8,105	17,826
Technical Services		1,388	2,947
Information Dissemination		4,192	

Small Business Center Programs, 1992-93

ACTIVITIES	NO. OF EVENTS	NO. OF PARTICIPANTS	NO. OF COMPANIES
Conference Sessions	28	1,786	1,786
Courses/Workshops	552	8,358	8,358

Note: Small Business Programs do not distinguish between individuals and businesses

Twenty-three small business centers and programs serving more than 35 counties work with local governments, agencies, chambers of commerce, and others to strengthen existing small businesses and promote stable start-ups and expansions. This work extends the business education and training expertise of the colleges into the workplace. Programs include:

> 16 Small Business Development Centers (serving 31 counties)
> 4 Small Business Assistance Centers
> Patent Center
> Procurement Assistance Center (serving 35 counties)
> Small Business Innovation and Research Program
> Business Information Clearinghouse

Thirteen Small Business Development Centers (SBDCs) have been established and funded by the Chancellor's Office in conjunction with the California Trade and Commerce Agency to provide comprehensive services to small business owners and those seeking to start new small businesses. In addition, in 1992-93 the Chancellor's Office funded three Small Business Assistance Centers and provided seed money for the Small Business Innovation and Research (SBIR) Program.

Programs Benefit Special Populations

The Small Business Development Centers also provide opportunities for people without access to traditional sources of financing and information to develop small businesses.

- The Women Entrepreneurs program at San Joaquin Delta College is an example of community college programs promoting the participation of special populations. The SBDC program helped 37 low-income and welfare-dependent women develop skills to start and operate businesses. The SBDC provides ongoing support to participants, who may qualify for business loans from a micro-loan fund sponsored by Women's Business Opportunity, Inc. The center provides technical assistance in the operation of the micro-loan fund, which helps program graduates not eligible for funding from traditional financial institutions.
- In connection with local business leaders

and banks, the Weill Institute at Bakersfield College formed a small business loan fund with initial capitalization of $250,000 to make loans of up to $15,000 each to small businesses. The loan fund is guaranteed by local corporations and used to leverage bank capital and lower finance rates. The counseling resources of the center are available to funded businesses during the loan period. The program targets candidates who have good business ideas and experience but would not qualify for regular loans. Applicants are evaluated for business experience and required to take classes as needed. The fund made nine loans for a total of $123,500 in 1992-93.

- With help from the East Bay Small Business Development Center, an early childhood educator secured SBA loans that enabled her to purchase and remodel facilities to house a South Berkeley child care center. Through the SBDC, she developed a business plan and applied for special funding for persons with disabilities. She also received a sizeable loan from the Berkeley Revolving Loan Fund. When it opens in early 1994, the children's center will serve up to 20 children with and without disabilities in a multicultural setting.

New Services for Business

Two major developments in 1992-93 will increase the capacity of the economic development network to provide additional services to small businesses. One of these, the Small Business Innovation and Research Assistance Center (SBIR) at Sierra College, is expected to stimulate technology innovation and increase private sector commercialization from federal research and development investment. The second, the California Procurement Technical Assistance Network (CAPTAN), started at DeAnza College in 1990 and was recently approved and funded by the Department of Defense to help small, minority- and woman-owned businesses statewide compete for contracts with federal and state government agencies and other large buyers.

Pursuant to AB1497, which establishes a state-level SBIR program through the community colleges, Sierra College conducted a feasibility study examining the capacity of colleges to provide direct, ongoing, capital resource development assistance to the high-tech research and development small business community through contracts awarded by the federal SBIR program. Following a feasibility study, development of a complete implementation plan, and proposals for funding, the SBIR program is ready for implementation. The program will provide a statewide, on-line assistance network to provide such services as patent processing, prototype development, state permit processing, contract procurement, and access to on-line information sources available through such sources as NASA, JPL, and a variety of colleges and universities.

The Procurement Assistance Center at DeAnza College (now CAPTAN, the California Procurement Technical Assistance Network) has helped many small businesses, particularly those owned by women and other minorities, win contracts with the federal and state governments and other large agencies. When it opened in January of 1990 with partial funding from the Department of Defense, the center served two counties. It gradually

SMALL BUSINESS CENTERS: Participation of Women and Minorities

WOMEN - 42%

ETHNIC MINORITIES - 27%

These graphs show the participation of women and minorities in the program. Over 40 percent of small business participants were women, including women business owners and co-owners.

SMALL BUSINESS CENTERS: Resource Leverage

- STATE EDP - 52%
- COLLEGE - 15%
- PRIVATE - 6%
- OTHER - 27%

Small Business Centers leveraged their economic development funds with SBA funds, college match, and other contributions so that there were more than twice the resources for training and small business development.

expanded its service area to 22 counties and is now providing assistance to small businesses in 50 of California's 58 counties. Partnering with satellite centers in five regions on a modest fee-for-service basis, CAPTAN provides an automated bid-matching technology by which thousands of requests for bids are matched with the capabilities of interested companies. Other services include one-on-one counseling and workshops, seminars, and conferences. The center served more than 5,000 businesses in 1992-93.

Benefits to Business

The following vignettes provide a sample of business services provided by community college centers during 1992-93:

- A labor-intensive assembly company lost 75 percent of its largest client's business due to out-of-state flight. Another company had increased six-fold in three years and needed an assembly production source. Southwestern Small Business and Interna-tional Trade Center in Chula Vista connected the two and provided alternatives. The growth company selected the assembly company in a bid process that resulted in a $70,000 contract and, along with other contract awards, the creation of 40 jobs.

- As part of the Prison Joint Venture Program, the Weill Institute studied prison facilities at Delano, Wasco, and Tehachapi for suitability to establish business "incubators." Businesses locating within prison complexes would take advantage of group services, such as clerical support and technical consulting, provided by incubator management. On-site location would reduce rental and utility rates and labor costs. A decision from the State Department of Corrections is expected in early 1994.

- A company dealing in innovative Macintosh-application software increased its line of credit, rented office space, and created jobs for four additional employees as a result of the Orange County SBDC's assistance with its business plan. The owner, whose business is a viable part of the Orange County economy offering a valuable product, is expanding his training department into a profit center.

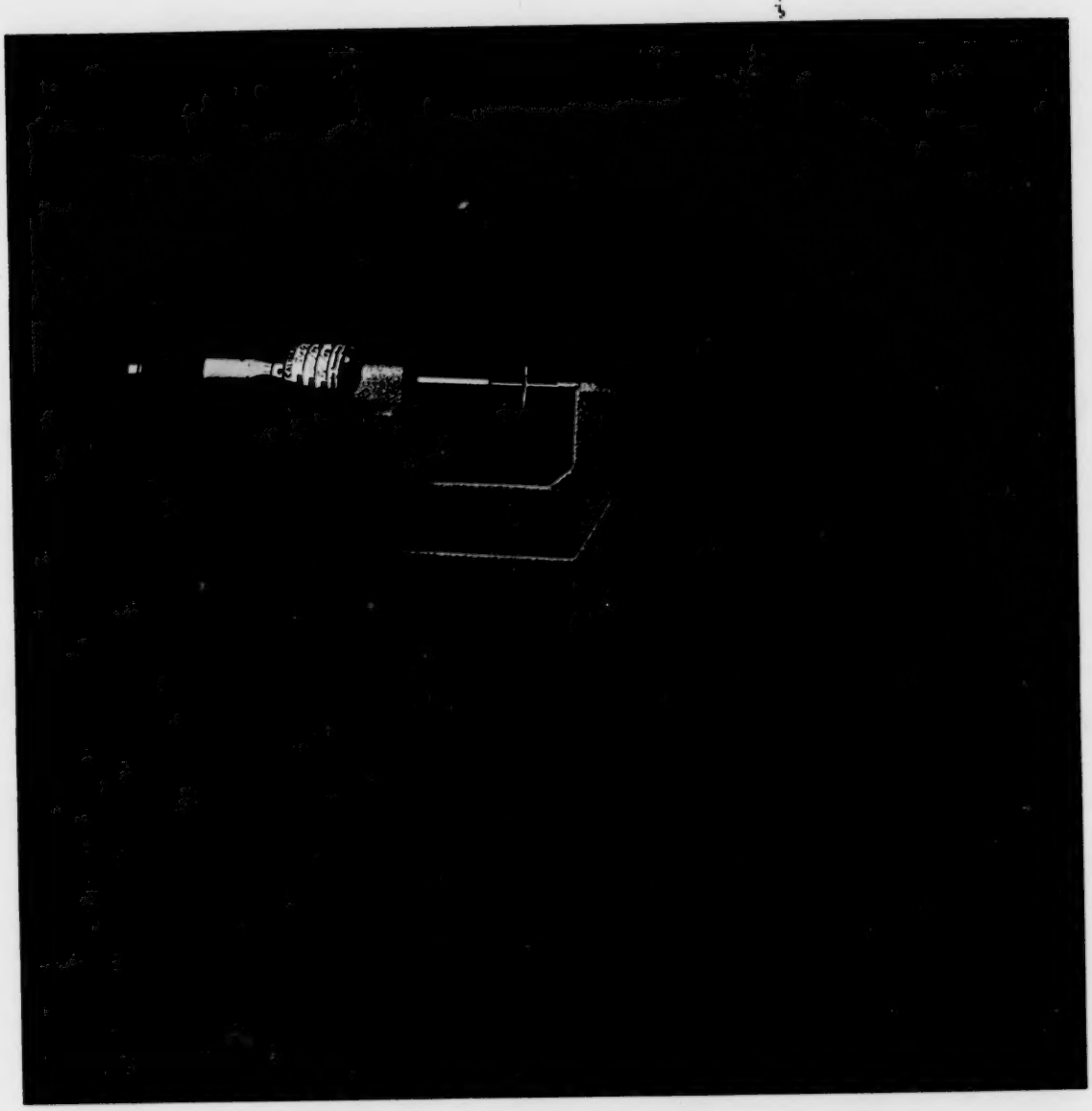
- The inexperienced new owners of a restaurant on the site of a previously failed one got help from the Solano SBDC in personnel management, menu planning, food costing, and inventory control. The restaurant is now profitable; it employs 25 people and plans to expand its workforce by five.

- In the Redwood Empire area, new owners of a little-used motel worked with the Lake County SBDC for review of their business plan and financial projections before seeking a loan for renovation. The owners received an SBA-guaranteed loan of $311,000; the motel is now a thriving business establishment contributing to the depressed tourism-dependent Lake County economy.

CAPABILITY FOR INCREASED INTERNATIONAL MARKETING

Small and medium-sized California businesses need competent assistance and training to enable them to make the most of expanding opportunities for international trade. The strategic response of the Chancellor's Office Economic Development Program is to provide programs and resources to enhance international trade opportunities for California businesses.

PARTNERSHIPS *for* SUCCESS



California Businesses and
Community Colleges Work Together

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Introduction

Entrepreneurs and established businesses across California are discovering the resources of the California Community Colleges. It's a bit like discovering gold. Rose Tomich-Litz, director of operations for a San Diego medical equipment manufacturer, expressed a common response: "Our managers were extremely impressed with the creativity, sophistication, and dedication of the educators who conducted the program for our workers." She was talking about on-site classes in Workplace English as a Second Language that prepared 71 Diatek employees to participate in continuous quality improvement training. "This kind of program is an important step in forging alliances between the world of education and the world of business," she said. "We can learn a lot from one another."

A different kind of business-education partnership helped SunLine Transit agency replace its aging diesel bus fleet with environmentally friendly compressed natural gas vehicles. Education partner College of the Desert established an Energy Technology Training Center to prepare SunLine technicians to service the new buses. General manager Richard Cromwell III is enthusiastic about the partnership's impact on the Coachella Valley. "SunLine Transit Agency is proud to have been part of bringing this coalition together. We hope this will become a national model of how non-urban communities can convert to alternative fuels. Everybody wins—and that's a good feeling!"

Southern California entrepreneur Karen Preacely Hicks is doing a brisk business in another environment-related product: emergency kits for children. Sales soared following the Northridge earthquake, and Hicks was prepared—thanks in part to help she received from Small Business Development Centers affiliated with Los Angeles-area community colleges.

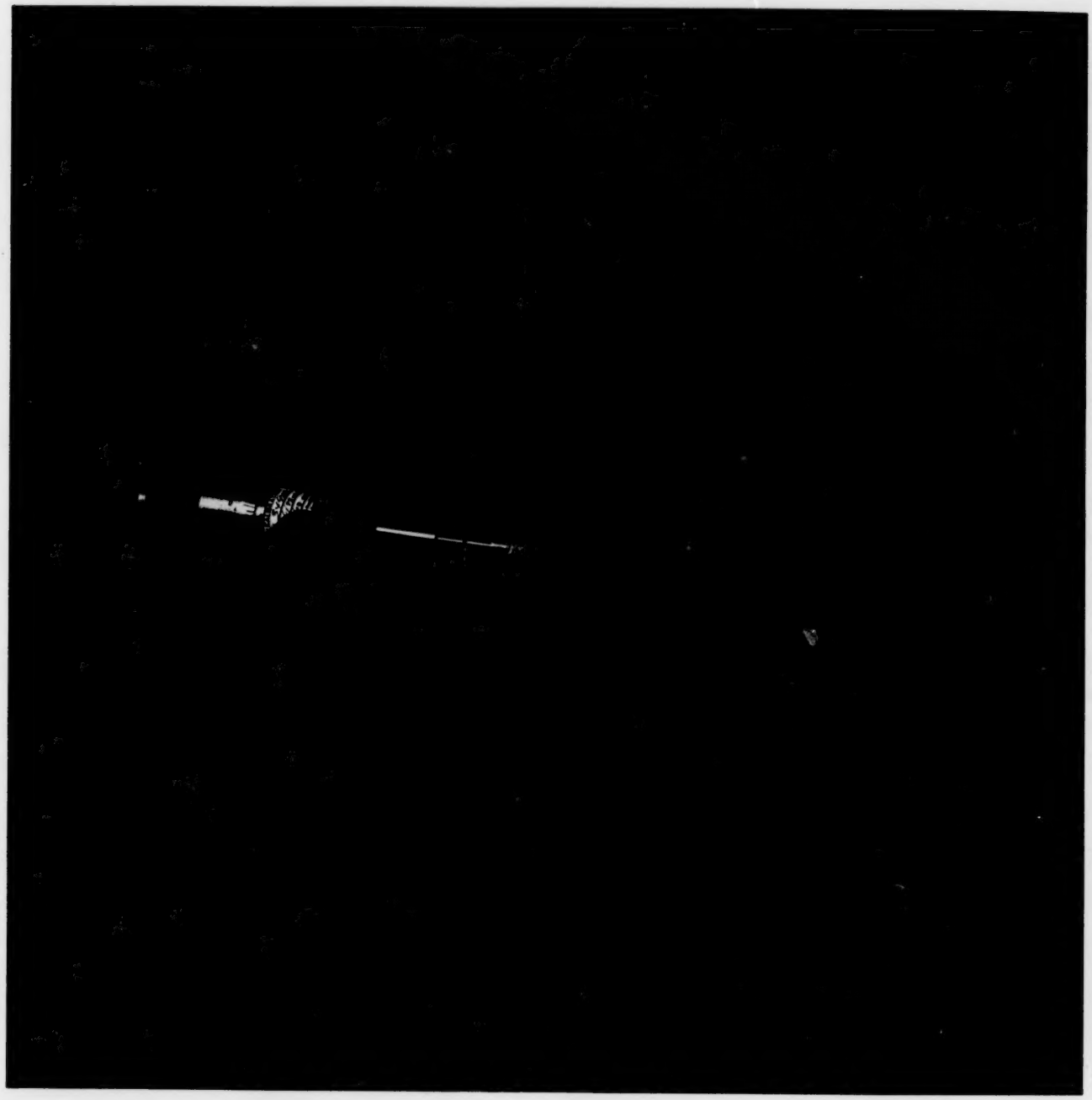
The following stories of these and other California businesses illustrate the value of economic development programs and services provided by California's community colleges to business, industry, and individuals across the state. Like the gold that drew thousands to California in the last century, community college resources have enriched the state's businesses and overall economy.

Technology center helps manufacturer make transition to commercial applications

John Gruber, general manager of Micro Precision Swiss, is pleased with the results of the manufacturing assessment completed by engineers from the California Manufacturing Technology Center (CMTC) for his San Juan Capistrano firm in May 1993. "We've taken their recommendations and made some large capital expenditures in quality measuring and production equipment that will improve our product quality and competitiveness," said Gruber.

Just a little over a year after funding from the National Institute of Standards and Technology (NIST) was announced, teams of engineer/technologists from the CMTC, located at El Camino College in Hawthorne, were busy helping Micro Precision Swiss and other California manufacturing companies evaluate their operations and make realistic plans for a more productive and competitive future. According to the CMTC director, the engineer/technologists focus on bringing appropriate technology to some of the 49,000 manufacturing companies based in the state. "We want to leave our clients with the ability, the culture, and the skills to continue to remain abreast of technology advancements and to continue to embrace these advancements through continuous process improvement," he said.

Micro Precision Swiss is a job shop specializing in Swiss-type precision components measuring five-eighths inch or less in diameter. The company, founded in 1977, employs 20 people working with plastics and all kinds of metals. They began a transition from computer and aerospace/defense to commercial applications about two and a half years ago; their



CHARLES DEISCHTER

Chief Executive Officer

Micro Precision Swiss

San Juan Capistrano, California

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contracts now are primarily with some of the growing number of medical instruments companies locating in Southern California. "Our business has grown by 42 percent in the past two years," said Gruber.

Engineers hired by the CMTC have a wide variety of training and experience; many are cross-trained in business or marketing, and most have or are working on advanced degrees. They are required to have five years' experience in addition to a technical degree; the average engineer/technologist has eleven years of experience. The CEO of Micro Precision Swiss, Charles Deischter, has spent his career in manufacturing. "I was very impressed with the caliber of people the CMTC sent out to make the analysis," said Deischter.

Engineer/technologists work in teams when conducting manufacturing assessments. A team leader is selected whose experience and expertise relate closely to the business of the client company. Mark Wilson, leader of the team assessing Micro Precision Swiss, has a bachelor of science in mechanical engineering from Cal Poly Pomona and has done graduate work in engineering at California State University, Fullerton. He has six years of experience in a long list of specialties involved in high-volume aerospace job shop manufacturing.

A manufacturing assessment yields vital information for the company's leadership. Managers obtain a better understanding of the company, how it is functioning, and what issues are affecting its productivity and competitiveness. The assessment provides a yardstick for companies to use in comparing themselves to industry peers. In addition, management learns about growth opportunities both for the company itself and within its competitive market. "Micro Precision Swiss is just beginning to tap into its market," said Wilson. "They are positioned for tremendous growth."

College aids transit agency's conversion to alternative fuel

SunLine Transit Agency, a public agency headquartered in Thousand Palms, provides transportation for residents of nine desert communities and unincorporated areas in the Palm Springs region of Riverside County. In 1993 the agency received a $2.175 million federal grant to facilitate replacing its outdated bus fleet with 40 compressed natural gas (CNG) vehicles. Total cost of the fleet, estimated at $10 million, is being financed with a combination of local, state, and federal monies.

General manager Richard Cromwell III expects the transition to be complete by the middle of 1994, making SunLine the first transit agency in the country to replace its entire fleet with CNG vehicles. "We could save upfront money with the purchase of diesel buses," said Cromwell, "but we figure the investment will be repaid over time with the lower fuel and maintenance costs of CNG. What's more, we have a commitment to the cleaner air alternative."

Cromwell worked with Terry Green, dean of community education and resource development at nearby College of the Desert, and Detlef Stevenson, who was general manager of natural gas vehicles for industry partner Southern California Gas Company, to establish the infrastructure for fueling and maintaining the new buses. In addition to providing funding and expertise, Southern California Gas is constructing a CNG fueling station, located on SunLine property but open to the general public 24 hours a day.

To meet the challenge of training mechanics to service the new bus fleet, College of the Desert established an Energy Technology Training Center; the facility opened April 15, 1993. "This center gives California industry and government a resource to train and retrain diesel and automotive mechanics to make the transition from diesel- and gasoline-powered vehicles to the ultra-low emission vehicles of the future," said Green. A Southern California Gas Company

RICHARD CROMWELL III

President

SunLine Transit Agency

Thousand Palms, California

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spokesman stated: "The support and involvement of the College of the Desert is a key cornerstone in the success of this pioneering effort. Trained personnel are vital to the support of the fueling infrastructure of natural gas vehicles on our road to clean air."

Using funds provided by a Chancellor's Office Employer-Based Training (EBT) grant, the state Employment Training Panel (ETP), Southern California Gas Company, and the South Coast Air Quality Management District, College of the Desert staff worked with an advisory committee including industry, regulatory, and education experts to set comprehensive objectives for the Energy Technology Training Center. Goals include assisting industry, public utility companies, and regulatory agencies in the development of alternative energy technologies and applications, providing training programs for a broad spectrum of user groups, and providing demonstration and test facilities for emerging energy technologies. Ted Dutton, ETP chairman, lauded the effort. "This terrific program is just what we need for our area and the state as a whole," he said. "It fits what we're looking for in terms of training to implement the new technologies necessary to meet air quality standards. The strong private sector commitment makes this an ideal program for leveraging ETP funds."

Twenty-eight technicians who service the SunLine Transit Agency fleet were the first graduates of the College of the Desert program, the most comprehensive in the nation for the training of technicians in the maintenance of alternatively fueled vehicles. SunLine's Cromwell expressed amazement at what's come about "because the Coachella Valley needed to replace an aging fleet of transit coaches." He's enthusiastic about the implications of this public-private partnership: "SunLine Transit Agency is proud to have been part of bringing this coalition together. We hope this will become a national model of how non-urban communities can convert to alternative fuels. Everybody wins—and that's a good feeling!"

Emergency kits give comfort in times of stress

Sending her son, Tyrone, to nursery school in 1991 was one of the hardest things Karen Preacely Hicks ever did. "When the school told me he'd need an earthquake kit, it made things that much worse," Hicks said. "I could hardly bear to think of being separated from him in an emergency." That painful experience was the start of Hicks's thriving business, Red Suspenders.

When Hicks went out to gather the blanket, food, water, and other items required for the earthquake kit, she found prepackaged emergency kits for home use—but nothing suitable for children. She packaged her son's supplies in a colorful neon bag and included a framed photograph of the family. Other parents who saw the kit thought it was a great idea, so Hicks, who has a degree in business and public administration, started conducting informal market research. Her experience as a marketing representative gave Hicks a good basis for evaluating the likelihood of succeeding with her children's emergency kit.

Convinced that she'd hit on an idea whose time had come, Hicks started putting together Komfort Kits containing thermal blankets, emergency food and water, and medical emergency forms—all packaged in nylon bags with a decorative frame for a family photograph. She sent off press releases and was overwhelmed by the response. "I must have gotten 30 calls the day the story appeared in the *Orange County Register*," Hicks said. She and her family and friends went into high gear to assemble the kits for the increasing number of telephone and mail orders. Even now, with Komfort Kits marketed at such major retail outlets as Fedco, REI, Longs, and Save-on, assembly is handled by volunteers.

KAREN PREACELY HICKS

Founder

Red Suspenders

Lomita, California

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Bolstered by her early success, Hicks sought professional help. "I knew what I wanted to do," she said, "but I needed help with mass merchandising." Hicks signed up for a 12-week course at the Coalition for Women's Economic Development—and she went to the El Camino College District Small Business Development Center in Torrance. Since June 1992 she's met regularly with consultant Ron Hodges, now at the Small Business Assistance Center at Los Angeles Southwest College, who continues to provide guidance and counsel to the growing business. "He even gave me a homework list after our first meeting," Hicks said.

As far as she knows, Hicks has the only product on the emergency preparedness market geared specifically to children. She's passionate about what she does. "I'd like to put together a program and go into the schools to help children deal with stress, to give them comfort," she says. Perhaps one day she'll do just that.

Education brings credibility to waste management firm

Dale Bean, founder and president of Envirotech, makes no bones about the importance of education to his company: "Education is the future. Companies like this will fall by the wayside if we're not prepared to deal with the future," he said. Bean describes Envirotech, which he established in Orange in 1989, as starting out as a bootstraps organization. "We operated for about a year and a half with staff who were largely self-taught—who had picked up their knowledge of hazardous materials from on-the-job training," Bean explained. "Then we decided to get college-educated people in here to enhance our credibility with the manufacturing community."

That's when Vince Scheerer, a graduate of the Environmental Hazardous Materials Technology program at Fullerton College, came on board. Having employees like Scheerer is essential to working with the small to medium-sized companies that are the most numerous clients of the hazardous waste disposal industry. "The people running these companies—and larger companies as well—often have no idea how to deal with complex environmental regulations," said Bean. "They got into business because they wanted to make furniture, or whatever, and they find themselves faced with hazardous wastes and a stack of rules on how to deal with them. We send Vince out to make things easier for them."

Scheerer, who received an associate degree in hazardous materials management from Fullerton in 1992, managed hazardous wastes for a metal finishing company and a musical instrument manufacturer—and worked part-time as a consultant—before coming to Envirotech in February 1993. "We advise companies on how to comply with regulations and how to dispose of their hazardous wastes, and we provide containers and transportation and act as liaison with disposal facilities," he explained. "Our clients range from mom-and-pop operations to the U.S. Navy," he said. "Most hazardous waste disposal companies don't want to bother with clients that generate very small quantities of waste," he explained. "Envirotech is different from other companies; they know what they're doing." Scheerer will soon begin coursework at West Coast University to complete requirements for his bachelor of science degree.

Bean, who brought a background in marketing and sales to his business, said Envirotech differs from the majority of hazardous materials transporters and brokers. "We aren't truckers who just got into the waste business," he said. "We came from a basis of education, from knowing about the variety of wastes, methods of disposal, wastewater treatment, and so forth. It makes a big difference in the service we can provide our customers." Envirotech will become a licensed hazardous materials contractor in 1994, and Bean appreciates the role of education in helping his small company make more than $3 million in 3 years. "What the educational system has to offer business and the general public is very exciting," he said.

DALE BEAN

President

Envirotech

Orange, California

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Trade center helps boat manufacturer expand its market

Brendella Boats, manufacturer of tournament-rated inboard direct drive ski boats, is successfully marketing its top-of-the-line boats to countries around the world—thanks to help from the Center for International Trade Development at Merced College. "They were exporting by the seat of their pants—like lots of companies we deal with," said center director JuDee Benton. "We helped them learn the skills they needed to conduct their export business in a professional manner—and to be sure their export documents complied with the letter of credit." While 80 percent of their market is domestic, Brendella exports about 20 percent of the 600 ski boats its 37 employees produce each year. Foreign clients include Austria, Canada, Denmark, Holland, Hungary, Japan, South Africa, and Spain.

Located in Merced since its founding in 1987, the company first came to the Center for International Trade Development for help with the complicated letters of credit that constitute the payment framework for international trade transactions. "A letter of credit is basically a test banks give an exporter to see how well they can read and follow instructions," said Benton, only partly in jest. Letters of credit begin with a proforma invoice drawn up by the seller stating all costs and conditions of the transaction; the buyer takes this to his bank and opens the letter of credit—which then goes to the seller's bank. If the documents are done correctly (down to the exact duplication of spelling errors), the letter of credit becomes an implied contract and the seller will be paid in a timely manner for products delivered. If the letter of credit is not done correctly (Benton says about 90 percent of them have errors), the transaction is analogous to an open invoice that puts the seller in the position of sometimes having to go to great lengths to secure payment.

Centers for International Trade Development across the state provide classes, workshops, and one-on-one counseling to small and medium-sized businesses involved in, or considering branching out to, international trade. Linda Demro, marketing assistant at Brendella Boats, has attended several training events at the Merced center in addition to the all-important class on Developing Skills for International Trade, which includes documentation and letters of credit. She feels comfortable calling the center whenever she runs into a problem. "You can always learn something new. I call JuDee [Benton] on the phone whenever I have a problem and she'll always make time for me. She gives 150 percent."

Technology center helps aerospace supplier implement TQM

DynaBil Industries West, an El Cajon sheet metal fabrication shop producing parts exclusively for the aerospace industry, first got involved with the Center for Applied Competitive Technologies at San Diego City College in 1991. As the company's aerospace orders were beginning to decline with the overall industry downturn, DynaBil management decided to investigate the possibility of incorporating process improvement and statistical process control (SPC) in their operation. "After they attended the CalSIP (California Supplier Improvement Program) workshop on process improvement they went back to implement teams and incorporate SPC on their shop floor," said special projects manager Tyler Orion. "When they encountered problems, they came back to us for help."

When a member of the technology transfer team went to DynaBil to analyze the company's difficulty, he found that many workers had not been trained in U.S. measurements. They were wasting precious time converting inches into the metric system measurements with which they were familiar. The Center for Applied Competitive Technologies provided Basic Measurement Instrumentation classes in English and Spanish that made an immediate difference in productivity.

BOB JESSEN — *Marketing Director*

LINDA DEMRO — *Marketing Assistant*

Brendella Boats

Merced, California

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In May of 1992 DynaBil started total quality management (TQM) training under the CalSIP program. Jim Wilson, CalSIP coordinator for the San Diego Center for Applied Competitive Technologies, helped the company get funding from the state Employment Training Panel to offset the cost of training 39 DynaBil employees. "The company had a good mindset to implement TQM principles," said Wilson. General manager Jim Stevenson and operations manager Rick Gray continue to train DynaBil employees in TQM. "The implementation of total quality management philosophies in our organization is facilitating a positive cultural change," said Stevenson. "Employees at all levels are provided both skills and opportunities to contribute to the company's progress."

DynaBil West was the first San Diego-area company to receive CalSIP training designed to meet the objective of achieving Boeing Advanced Quality System (AQS) certification. Boeing is the largest of DynaBil's 13 aerospace customers, and Rick Gray emphasized how important the Boeing D1-9000 certification is for his company. "In effect they tell their suppliers if they want to do business with Boeing they must be AQS qualified," said Gray. "We now have all our individual part numbers (over 500) under statistical process control, and we have just been approved for the Lockheed Fort Worth company's SPC System Certification, which focuses on key processes."

Established in 1987 as the West Coast branch of a New York-based firm, DynaBil experienced steady growth in its aerospace business—primarily supplying commercial aviation—through 1991. Despite an industry-wide decline, the company remains committed to the improvement process, and to retaining its focus on aerospace As the aerospace industry continues to reduce the number of suppliers, DynaBil's corporate strategy is to be the "best of the rest." Total quality management training is a significant factor in achievement of that goal.

The California Supplier Improvement Program, a cooperative effort of the California Community Colleges, California Trade and Commerce Agency, the state's ten prime aerospace contractors, and the Employment Training Panel, offers on-site total quality management training for small to medium-sized aerospace suppliers. Training includes principles of total quality management, statistical process control, problem solving, and teamwork, leadership, and communication.

"Because of the increased level of awareness and ownership developed through TQM training, our machine operators have been able to come up with new techniques that dramatically reduce our rejection rate on numerous parts," said Gray. The company has also made remarkable progress in reducing delinquent orders.

"The continuous improvement process is a long-term project," said general manager Stevenson. "We are only now starting to experience real cost savings that will give us a competitive advantage. We are excited about the changes TQM has brought to our company, and we can honestly say we are believers in the process."

Production workers improve communication skills

Diatek Incorporated, a San Diego manufacturer of medical equipment, contacted the San Diego Community College District Workplace Learning Resource Center when it needed assistance in improving the communication skills of its limited English speaking production employees. Less than a year later, 71 Diatek employees had each completed 72 classroom hours and 36 hours of structured on-site training in Workplace English as a Second Language/Communications.

Robin Carvajal, center coordinator, explained that, prior to providing the on-site classes for four groups of Diatek employees, Workplace Learning Resource Center staff conducted literacy audits, needs assessments, and participant surveys to determine the existing language skills of employees and find out what kind of training they would need to help them

JIM STEVENSON
General Manager

RICK GRAY
Operations Manager

DynaBil Industries West
El Cajon, California

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communicate more effectively on the job. Rose Tomich-Litz, who was manager of manufacturing operations for Diatek at the time, was very pleased with the way the assessments were conducted. "They were introduced to our employees in a very comfortable and non-threatening manner," she said. "Results were summarized for the planning committee and each employee had the opportunity to review their individual assessment results and discuss the implications with center personnel. The overall process was an excellent start to our program."

Following the assessment process, curriculum developers worked closely with Diatek supervisors and line workers to ensure that instruction would meet the identified needs. "Our managers were extremely impressed with the creativity, sophistication, and dedication of the educators who conducted the program," said Tomich-Litz. "We got an entirely new perspective on educators through this experience."

Tomich-Litz explained that the company decided to seek assistance because it wanted all employees to be able to participate in continuous quality improvement (CQI) training. Both the communications and CQI programs were supported with grants from the state Employment Training Panel. "This kind of program is an important step in forging alliances between the world of education and the world of business," she said. "We can learn a lot from one another."

Each 18-week class cycle was divided into two 9-week segments. During the first segment, students used materials from the workplace to learn basic skills; the second segment integrated materials to be part of the CQI training. During this segment, employees formed cross-functional teams to identify problems related to their work situations; they utilized CQI tools and techniques to devise and implement solutions. Tomich-Litz sees five lasting benefits from the training: (1) employees developed better problem-solving skills; (2) participants increased their self-esteem; (3) increased self-esteem made participants more comfortable communicating; as a result, the level of communication increased; (4) participants developed greater teamwork skills; and (5) the education process helped break down cultural barriers.

Throughout the training process, Workplace Learning Resource Center staff solicited feedback from management to ensure that the company's objectives were being met. "We were privileged to see real educators in action during this program," said Tomich-Litz. "The results are very evident on our shop floor."

In April 1993 the 18-year-old company reorganized into two separate organizations: Diatek, with about 150 employees, manufactures digital and infrared thermometers and their disposable components; Arkive Information Systems, with 55 employees, produces highly specialized computers that manage operating room information related to anesthesia. Tomich-Litz, who is now director of operations for Arkive Information Systems, is adamant that more education-business alliances, such as the one formed between her parent company and the San Diego Community College District, are essential for building bridges in our fragmented society. "Educators can become more effective by learning some lessons from business," she said, "and we in the business world need to recognize the many resources educators can bring to us."

Information on the wealth of California community college programs and services for business, industry, and individuals is only a phone call away. The California Community College Economic Development Network, ED>Net, provides a central access point linking college resources with Californians statewide. A call to the toll-free ED>Net line, (800) 344-3812, puts the caller in touch with workplace training programs and on-line information services designed to meet the special needs of the California business community.

ROSE TOMICH-LITZ

Director of Operations

Arkive Information Systems

San Diego, California

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ED>Net

California Community College
Economic Development Network

390 West Fir, Suite 204
Clovis, California 93611-0244
209 297 6000 *Telephone*
209 297 6011 *Fax*
800 344 3812 *Toll free*

Eight Centers for International Trade Development (CITDs), plus one affiliate, viz., the University Center Export Program (UCEP) at Fresno City College, and a satellite center at Gavilan College, worked with such groups as the California World Trade Commission, the U.S. Small Business Administration, the California Hispanic Chambers of Commerce, and local governments, agencies, and commercial entities in 1992-93. The centers performed many functions including:

- promoting interest in trade,
- providing international trade services and training to small and medium-sized businesses which are current or potential exporters,
- providing technical assistance in specialized areas,
- providing access to extensive international electronic resource databases,
- gathering and disseminating international trade leads,
- providing detailed referrals, and
- disseminating materials for internationalizing community college curriculum.

Partnerships and Technology Maximize Resources

During 1992-93 the trade centers worked with local organizations, agencies, businesses, and universities, and with each other, to increase awareness of trade opportunities and help businesses take advantage of them through training, technical assistance, and information. The centers use electronic databases, interns from the universities, and cooperative agreements with many local consultants, businesses, and agencies to provide an extensive network of resources for their clients.

Merced College received a two-year U.S. Department of Education Title VI-B grant providing first-year funds of $70,992 to underwrite (1) regionalization of international trade technical assistance, and (2) internationalization of the community college curriculum for colleges in rural areas. Sharing their expertise and accumulated resources, Merced CITD will help Gavilan SBDC and satellite trade center develop its technical assistance capacity, resources, and training program. The project will also (1) offer 10 community colleges assistance in curriculum development and faculty training on internationalizing the curriculum, and (2) provide services to businesses in a 10-county area twice the size of New Jersey.

International Trade Center Services, 1992-93

ACTIVITIES	CO.S TARGETED	CO.S SERVED	HOURS
Inquiries/Requests	3,770	9,639	
Counseling/Technical Services	713	1,863	5,280
Trade Leads	800	8,820	

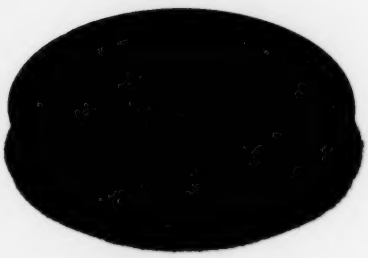
International Trade Center Programs, 1992-93

ACTIVITIES	NO. OF EVENTS	NO. OF PARTICIPANTS	NO. OF COMPANIES
Presentations	36	949	599
Courses/Workshops	118	3,071	2,221

The California Farm Equipment Show, held each February in Tulare, is the largest agricultural trade show in the world. In 1993 it was selected as a Buyer's Mission by the U.S. Department of Commerce, International Trade Administration, attracting hundreds of committed foreign buyers to the three-day event. The Fresno UCEP and Merced CITD provided nine different trade workshops to

INTERNATIONAL TRADE DEVELOPMENT CENTERS: Participation of Women and Minorities

WOMEN - 14%



ETHNIC MINORITIES - 36%

The graphs show participation of women and minorities in the program. While the participants were predominantly male, over one-third were from minority groups indicating expanding opportunities for this group. Cross-cultural training, which is integral to international trade success, was fostered by the centers.

overflow crowds. The session on Exporting to Mexico had to be repeated due to popular demand.

The centers also leverage their capacity by providing state-of-the art resource tools for their clients. Market research tools such as the National Trade Data Base (NTDB), CATI (California Trade Index), World Atlas, PC Globe, and GBEN (Global Business and Education Network) on-line data systems are among the commonly used resources. Some colleges use technologies like CD-ROM and self-paced, export computer training programs. The World Trade Resource Center at Coastline offers more than 3,500 international trade reference materials.

In addition to helping businesses succeed in the global marketplace, many CITDs helped other colleges provide international trade information and training in their service areas. Riverside CITD provided such assistance for 5 other colleges including 14 seminars and workshops for faculty and 705 companies, an economic development summit, internship training for 8 universities, and a Mexico business-to-business project. Sacramento CITD serves four college districts outside its own.

Model Program Recognized

The UCEP located at Fresno City College was named the "Outstanding University Center in the Western United States" by the U.S. Department of Commerce and Economic Development Administration Regional Office. It was also selected by the U.S. Department of Education as one of six community colleges in the U.S. to be used as a model program case study of college export promotion programs. These programs were highlighted in a special publication, *Profiles of Leading Community College International Trade Centers*.

International Trade Successes

Small and medium-sized companies across the state benefitted from trade center assistance in 1992-93. For example:

- Citrus CITD provided trade leads which yielded
  - > $200,000 in export sales to a computer peripheral trader
  - > $122,000 in export sales in Hong Kong, China, and Indonesia to a manufacturer of voice recognition home automation products
  - > $12,000 initial sales in the Korean market to an exporter of a colorization system for inkjet printers
- Coastline CITD technical and marketing assistance to Orange County export companies resulted in
  - > 10 shipments of water filters to Poland which generated over $100,000 (The company plans to operate a water filter plant in Poland.)
  - > sales of medical equipment to Europe netting over $100,000
  - > automobiles shipped to Saudi Arabia yielding $35,000 to the export company
  - > an initial shipment of ointment from a health care company to the West Indies generating $10,000
  - > shipment of two 20-foot containers of dehumidifiers to a large Australian grocery store

chain which generated over $45,000

- Merced CITD, based on its annual client survey, has contributed to $7,402,000 in export sales by businesses it has assisted.
- Oxnard CITD assisted six firms directly in export sales of approximately $605,000 worth of products, including bike lockers, medical products, and industrial high-temperature processing ovens.
- The Riverside CITD's technical services have assisted local firms in generating over $20 million in reported international sales, including a $6 million sale. An experiment with "live trade leads" (actual contacts from foreign countries) involved visits from businesses and high-ranking government officials from China, El Salvador, Cameroon, and Cape Verde. One company completed a $2 million transaction with the visitors.
- The Sacramento CITD participated in a South American "Catalog Show" organized by the U.S. Department of Commerce to find agents or distributors of American products in developing countries. Information on 13 Sacramento-area firms was given to more than 300 companies in South America.
- One medical testing laboratory brought high-technology HIV testing capabilities at low cost to developing and Third World countries through trade leads received from the director of the international trade initiative. The new HIV-testing product, tested by the World Health Organization, is being marketed worldwide. The company has received letters of interest from 11 additional countries and expects to sell more than a million units in its first year, compared to an original estimate of 50,000 units.

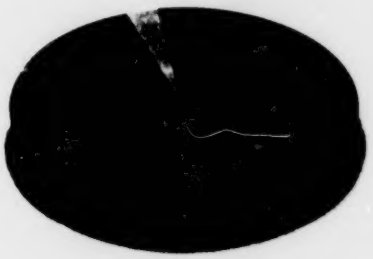
COMPETITIVE MANUFACTURING PRODUCTS THROUGH IMPROVED PROCESSES

If California is to remain a key player in the global economy, the state's nearly 50,000 manufacturers must modernize their operations, adopt leading edge technologies, and train their workforces to produce top quality products. The strategic response of the Chancellor's Office Economic Development Program is to increase the competitiveness of small and medium-sized manufacturers, accelerate transfer of environmentally and economically sound technologies, promote continuous quality improvement, and assist defense suppliers in converting to commercial applications. The California Community Colleges, through their California Manufacturing Technology Center (CMTC) at Hawthorne and affiliated Centers for Applied Competitive Technologies (CACTs) across the state, provide a full range of educational and technical assistance services.

California manufacturing companies, which comprise over 13 percent of the nation's manufacturing base, provide more than 20 percent of the state's employment and 25 percent of its wages. The fact that many of these companies are in the vulnerable defense and aerospace sectors makes it important for community colleges to continue to provide competent, affordable assistance. Ninety-two percent of the state's 6,000 defense and aerospace suppliers are located in areas served by the California Manufacturing Technology Center and Centers for Applied Competitive Technologies.

Through partnerships with the National Institute of Standards and Technology (NIST) and the

INTERNATIONAL TRADE DEVELOPMENT CENTERS: Resource Leverage



International Trade Centers leveraged their economic development funds with Small Business Administration funds, college match, and other contributions so that there were twice the program resources to support training for international trade development.

national laboratories, the community colleges offer the expertise of engineer technologists along with the local resources of colleges involved in manufacturing technologies and TQM (total quality management) training. In 1992-93, the applied competitive technologies initiative strengthened the ability of the California Community Colleges to provide a full range of services to the state's manufacturing community. In addition to starting up the federally funded NIST/California Manufacturing Technology Center, initiative committee members and center staff completed development of a full curriculum and training program to enable additional colleges to offer total quality management training to businesses and manufacturers in their service areas.

Technology Center Services, 1992-93

CMTC/CACT SERVICES	NUMBER
Initial Site Visits	360
Inquiries/Requests	402
Formal Assessments	52
Technical Assistance	107
Quality/Inspection	69
Business Systems/Management	22
CAD/CAM/CAE	11
Other	11
Companies Served	276
Training Attendees	2,943

California Supplier Improvement Program Services, 1992-93

CALSIP SERVICES	NUMBER
Workshops	93
Companies	131
Participants	562
Contracts	30

Services of the applied competitive technologies initiative are provided through the NIST/California Manufacturing Technology Center and eight Centers for Applied Competitive Technologies. Four additional colleges provide CalSIP (California Supplier Improvement Program) training for manufacturers supplying aerospace firms. CalSIP training is supported by the state's ten aerospace primes, the state Employment Training Panel, and the California Trade and Commerce Agency.

Benefits to Manufacturers

California manufacturing companies turned to community college technology centers for help with a variety of problems in 1992-93. For example:

- A leading manufacturer of high-performance closed circuit television cameras and security systems, facing declining profits, dwindling sales opportunities in the defense industry, and increasing foreign competition, turned to San Diego City College CACT for TQM training. The company reduced its process time by three days, saved over $10,000 a year by making shipping improvements, and reduced manufacturing costs by 8 percent and scrap by $2,000. A new appraisal system rewards employees for contributing to this kind of improvement.

- A small electronics company that relied on aerospace and defense customers for 25 percent of its business came to the Fullerton CACT for help lowering high levels of rework and scrap and improving on-time delivery. The CACT helped the company develop a business strategy and training plan focusing on total quality management, statistical process control, and teamwork and including Vocational English as a Second Language (VESL). Through a corporate change based on a teamwork structure, the company reduced scrap and rework levels, stabilized its workforce and added new assembly personnel, and established new customer accounts. On-time deliveries went from 50 to 70 percent.

- A minority-owned small manufacturing company that produces sophisticated test systems for electronic equipment was at risk of losing 90 percent of its current sales in a highly competitive market. As a result of TQM training provided by the San Diego City College CACT, the company reduced invento-

ry by 60 percent, reduced errors by 26 percent, and is shipping ahead of schedule instead of behind. The company received supplier certification and won its first commercial contract.

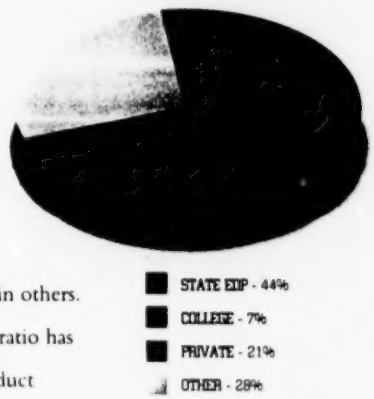
■ Employees at a family-owned manufacturing company in Rancho Cucamonga received TQM training from the Professional Development Center at Glendale Community College. The company produces high-tech electro-optical and biomedical instrumentation components in addition to parts for the aerospace industry. Seven managerial level employees attended two three-hour classes per week for 14 weeks, working on real company problems with staff from similar businesses. Solutions developed using TQM problem-solving mean an annual savings of more than $120,000 for the company. At the end of the course, the seven trained employees returned to train the rest of the staff in the principals of total quality management. The company enjoyed a 13 percent growth rate in 1992, an achievement the company president attributes in large measure to the implementation of total quality management techniques.

■ A Santa Monica-based company that has been in business in the Los Angeles area for 35 years received TQM training provided by West Los Angeles College as part of the California Supplier Improvement Program. The company employs approximately 100 persons in five divisions producing air filtration and purification devices for aerospace and commercial applications. In March 1993, 39 employees graduated from six months of total quality management training provided in both English and Spanish. The company installed a vendor performance rating system to collect and analyze data, increased on-time delivery from 66 to 90 percent, and reduced the number of jobs returned from 9.1 to 5 percent. Communication has improved through company-wide monthly meetings and publicized business plans. Quality teams operate in four divisions, and many of their suggestions have been implemented.

■ A small electronics company that had lost money two years in a row due to fierce out-of-state and international competition engaged the San Diego CACT to provide training in TQM, Vocational ESL, and technical math, and to prepare some employees to train others. The company's printed circuit board defect ratio has been cut in half, teamwork has reduced product development time, and parts inventory has been reduced. The company won a major contract based on improved product quality.

Implementation of the kinds of programs and services described above is facilitated by such ongoing infrastructure development activities as: curriculum and vocational program development, faculty in-service training, and support for the implementation of new modes of instructional delivery. The next section describes 1992-93 programs funded by the Chancellor's Office that enhanced the capacity of individual colleges and districts to (1) help Californians already in the workforce meet new job challenges, and (2) deliver training to prepare citizens to find jobs and succeed in the 21st century workplace.

APPLIED COMPETITIVE TECHNOLOGY CENTERS: Resource Leverage



The centers leveraged their economic development funds with federal funds, college match, contract education income, and other contributions so that there were more than twice the resources available to support training for manufacturing.

part THREE

Capacity-Building: State and Local Development

To meet changing workforce needs, the California Community Colleges are focusing their energies on (1) revising existing and developing new vocational education curricula; (2) establishing new programs to help employed workers keep abreast of new technologies, to retrain displaced workers, and to provide job skills to those entering the labor market; and (3) extending education and training efforts by utilizing new approaches to reach learners in the workplace.

The economic development program supports these college efforts through grants for employer-based training (EBT) partnerships and for faculty in-service opportunities at business and industry sites around the state. Through these partnerships and in-service opportunities, colleges update and develop curricula to meet needs identified in conjunction with local partners. The environmental hazardous materials program and total quality management training program described below address statewide needs with intensive development and faculty training. The statewide network provides technical assistance, training, and support for the colleges' fee-based contract education efforts that bring community college expertise to the workplace. In these ways the economic development programs of the California Community Colleges build the capacity of both local colleges and the statewide system through development of new curricula, faculty skill updating, and college efforts in new areas of service delivery.

NEW CURRICULA FOR NEW AND CHANGING OCCUPATIONS

Two kinds of state-funded programs help the community colleges provide programs to equip the workforce of the 21st century:

1. Employer-based training (EBT) programs are locally initiated through college-business partnerships that develop new (or overhaul existing) academic programs in rapidly changing fields.

2. Development of common curricula across the state expedites start-up of training programs in fields with high demand. The environmental hazardous materials training and CalSIP/TQM programs described below illustrate this approach.

Of the five projects receiving EBT funds during 1992-93, the four described below were completed during the fiscal year. These projects targeted special needs students for education, training, and employment through the coordinated efforts of employers, community-based organizations, and educational institutions. Several funded programs developed models that enable the program to be implemented at other campuses. These partnerships gave students the opportunity to develop skills for viable careers; at the same time they addressed the need of industry partners for qualified workers.

Alternative Energy Technology: Compressed Natural Gas Curriculum

Using employer-based training grant funds, College of the Desert and its industry and government partners developed one of the nation's first Compressed Natural Gas (CNG) training programs. The project assisted in the development of CNG curriculum, trained 28 SunLine Transit Agency diesel mechanics in CNG technology, and became one of the first nationally accredited and certificated alternative energy/gaseous fuels training sites.

This project provides a model of how a whole new sub-industry can be approached with

retraining programs. Mass transit agencies and public utilities that use large fleets of vehicles are interested in the implementation of cleaner fuel technologies. Mechanics and engineers who maintain current vehicles must be retrained as fleets are converted to alternative fuel technologies. The lack of trained technicians has hampered adoption of new technologies.

A number of cities, agencies, and government leaders have contacted the Energy Technology Training Center at College of the Desert to schedule training or to obtain the curriculum package. The American Propane Association and other gaseous fuels trade associations have adopted the center as the preferred training site and program.

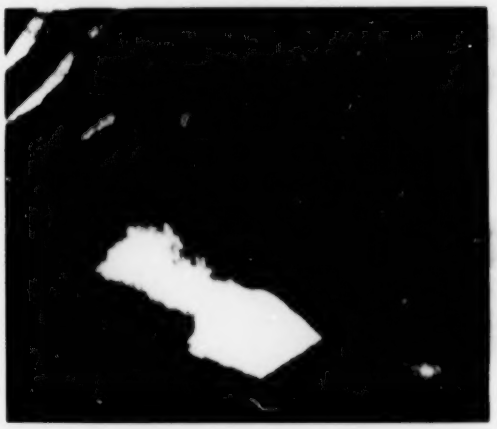
Because of growing interest in this kind of program, and as a result of an alliance of the California Community Colleges with major alternative fuel groups and industry organizations, a statewide Advanced Transportation Technology Initiative Consortium is forming so that at least five additional colleges can replicate the program and expand into other alternative fuel technologies.

Electrical/Electronic Training Network

Modesto Junior College established an Electrical/Electronic Training Network with area industries using interactive computer-based training in electronics. Using distance learning technology, students at various worksites and at the college can take the courses they need to keep pace with industry changes. As a result of this project:

- Over 100 students completed self-paced computer-based instruction during the first semester of operation.
- Eleven different computer-based courses were made available to students at six industry sites and on campus.
- The training was established as an integral part of the apprenticeship and new employee training at three industry sites.

The college will be used as a training site for Lawrence Livermore National Laboratory. Other Modesto programs, from heating and air conditioning to math and geology, are considering employer site training using this delivery model. Other colleges are looking into establishing similar delivery networks.



Computer-Aided Apparel Design: Skills Training Project

The apparel industry, the second largest industry in the San Francisco Bay Area, is a major California growth industry. Market demands for speed, accuracy, and competitive pricing have been accommodated through computerization; the industry is now 50 percent automated. Diablo Valley College is the only area public college that offers a complete apparel design program including computer training. As a result of an EBT-funded project, the college implemented a computerized lab within the apparel design department and instituted a four-part curriculum in computer pattern making, grading, marker making, and design. The project trained a class of 36 successful completers in the first year; it also provided instruction for 17 apparel employees from 11 companies.

EMPLOYER-BASED TRAINING PROGRAMS: Resource Leverage

STATE EDP - 45%
COLLEGE - 20%
PRIVATE - 35%

Employer-based training programs require matching funds to support the programs in addition to the value of the time and expertise of many advisors and partners. The graph demonstrates that for every dollar invested another $1.25 was contributed.

Master Curriculum: Off-Highway Heavy Diesel Equipment Repair

The diesel technology program at the Pacific Coast campus of Long Beach City College received EBT funding to implement a new heavy-duty equipment repair curriculum. Partnering with Caterpillar, Inc. and its dealer partner, Shepherd Machinery, Long Beach has been able to provide excellent "real world" experience for students.

The curriculum restructuring funded by this grant resulted in a training program that provides additional career options for students. The updated program attracted more female students. Strong ties to the college's Project Adelante opened doors to low-income Hispanic students who have completed the amnesty program to become citizens.

The curriculum was modularized to accommodate retraining of industry employees. Additional short-term courses are being developed to certify students in areas related to South Coast Air Quality Management District and Environmental Protection Agency requirements.

Caterpillar is reviewing Long Beach City College's off-highway heavy diesel equipment repair curriculum for inclusion as part of a "master curriculum" for use by colleges across the country. Two other California colleges have reviewed the program for their own possible use.

Environmental Hazardous Materials Technology

The Environmental Hazardous Materials Technology (EHMT) Consortium brings together colleges providing EHMT training using faculty prepared through a standard training process and employing a jointly developed approved curriculum. Started just five years ago with six colleges, the consortium now includes 23 community college EHMT programs.

Each member college uses the proven quick start-up approach to launching the standard EHMT technician curriculum developed by the consortium. Faculty attend an intensive six-week summer institute offered through University of California Extension and partially supported by the Western Regional Partnership for Environmental Technology Education (PETE). To initiate the EHMT program on their local campuses, the instructors survey area businesses to identify specific local needs. Local business/industry advisory committees are established to enhance program viability. Equipment must be obtained, and each new program must be approved before the college can offer EHMT courses.

In 1992-93 five new EHMT programs were started and two additional instructors were trained for existing programs using in-service training funding from the Chancellor's Office ($72,760 was matched by in-service/start-up grants from PETE, which contributed $78,958 for these projects). At one college, the first classes of the new EHMT program were offered in the spring semester. One semester later, the program was serving 336 students. At another college, enrollment in the program was twice as high as expected and included 50 percent women and more than 20 percent other minorities.

Eight California Community College faculty members participated in summer 1993 internships designed to provide hands-on field experience to enrich their classroom teaching. Internship experi-

ences included working at a naval shipyard, helping Cal-EPA geologists at Superfund sites, and working at the NASA Jet Propulsion Laboratory.

EHMT program leaders work closely with the national laboratories for training and technology transfer, and are part of the Western Regional Partnership for Environmental Technology Education. In addition to providing educational programs producing certified or degreed technicians, community college EHMT staff work with local governments, agencies, and businesses to provide training through contract education and workshops.

Most member colleges also provide hazardous materials (hazmat) fee-based or contract education training activities. Irvine Valley College is providing the basic EHMT curriculum to personnel on the El Toro Marine Air Station, and nine Bay Area colleges are cooperating to provide training to workers who will be displaced from Alameda Naval Air Station and Mare Island Shipyard and Naval Aviation Depot.

Through the EHMT Consortium, the California Community Colleges have spearheaded the environmental education movement and taken leadership roles in the Partnership for Environmental Technology Education. The consortium has contributed to the development of the standardized curriculum that has become a national model.

Total Quality Management Training

Another large-scale project that leveraged community college talent to address the needs of California business was the completion of a total quality management curriculum and training of 20 faculty from across the state to use the curriculum in their service areas. The original curriculum was developed in conjunction with the CalSIP advisory group. The new curriculum includes a package geared to service and other non-manufacturing sectors as well as the aerospace/defense suppliers originally targeted by the CalSIP program. A survey of colleges indicated a recognized local business need and a high level of interest in offering this kind of curriculum. The training program that was developed to enable other colleges to offer the curriculum includes 80 hours classroom work and 20 hours on-the-job training with a company implementing total quality management.

UPDATED CURRICULA TO MATCH NEW JOB CHALLENGES

Faculty in-service training programs provided worksite experience for 53 instructors in 1992-93 as a means of increasing their competencies and teaching effectiveness. In addition, in-service training programs developed or updated curricula to meet changing industry needs. Faculty from 18 colleges completed 7,380 hours of in-service, worksite training. This training enabled faculty to bring new awareness and skills to their colleges, based on learning current workplace skills and practices, in such areas as curriculum revision, use of new technology, student internships, and viable careers for students. Participating faculty maintain ongoing contact with their company employers and advisors.

Curricular Areas Involved in In-service Training Include:

- Air Frame Power Plant
- Animal Health Technology (Veterinary Dentistry)
- Architectural Drafting
- Automotive/Diesel
- Business
- Business Information Systems
- Computer Graphics/CAD
- Computer Electronics
- Computer Information Systems
- Computer-Integrated Manufacturing
- Configuration Data Management
- Crime Prevention & Analysis
- Drafting/Engineering
- Early Childhood Development
- Echocardiography
- Electronic Publishing
- Electronics
- Finance and Investment
- Graphics Communication
- Hotel & Restaurant Operations
- Interior Design
- Nursing
- Office Technology
- Ornamental Horticulture
- Pharmacy
- Pre-Hospital Emergency Care
- Radio & Television Tech
- Surveying
- Welding (Underwater)

TECHNOLOGY TRANSFER: ENVIRONMENTALLY SENSITIVE, COMMERCIALLY VIABLE

The decline in defense spending has raised a concern for utilizing advanced technologies developed by the national laboratories primarily for defense. Public and private sector businesses nationwide are focusing on the transfer of defense-related technologies to the commercial sector. This movement is especially vigorous in California, where manufacturers have been heavily dependent upon aerospace and defense. A major development in 1992-93 was the establishment of the NIST/California Manufacturing Technology Center, one of only seven such federally funded centers in the country and the only one in the western states. In addition to aerospace/defense-related manufacturers, the CMTC serves companies involved in electronics, computers, communications, food processing, printing, and construction. The CMTC plans to become financially self-sufficient within six years.

The CMTC utilizes technology transfer teams to leverage the expertise derived from the center's extensive linkages, which include: technology vendors, aerospace primes, Lawrence Livermore National Laboratory, the California Manufacturing Association, the American Society for Quality Control, chambers of commerce, and a number of universities. The center amplifies funding by linking with technology sources and leveraging delivery to groups of companies with similar technology needs. Colleges participate in such ways as (1) providing technology demonstrations for manufacturers in their service areas, and (2) partnering with the national laboratories to sponsor interactive telecommunication presentations on new technologies and environmentally responsible manufacturing techniques.

The CMTC and affiliated CACTs serve as demonstration sites for manufacturing processes and products, including computer hardware and software such as computer-integrated manufacturing (CIM) and robotics. In 1992-93, the centers offered four teleconferences, in cooperation with the national laboratories, that provided information on new technologies to 219 employees of 169 companies.

Despite being heavily involved in start-up activities, the CMTC provided initial assessment services to several Southern California manufacturing companies in 1992-93. One of these companies was part of the Rebuild L.A. project. Eleven engineer/technologists of the projected staff of 30 had been hired by June 30.

STRENGTHENING COLLEGES FOR CUSTOMIZED SERVICE DELIVERY

The California Community Colleges are well-positioned to strengthen the state's economic development efforts. With 107 campuses and additional satellite centers strategically located throughout the state, the California Community Colleges offer education and training opportunities and business assistance within driving distance of nearly every Californian. The colleges' vocational and basic skill programs often serve as a springboard for customized workplace training.

A growing number of California's community colleges are involved in contract education: providing a wide variety of customized courses on a fee-for-service basis to local business and industry. Contract education staff work with company management to determine education and training needs, assess

employee skills, and deliver courses on site at the convenience of the contracting company. In this way the resources of the community colleges are made available to California's workforce to benefit both individual workers and their employers.

In 1992-93 the network provided a variety of programs to strengthen the colleges' customized education and training efforts.

- ED>Net contract education directors and committee members provided technical assistance to 36 community college districts and additional colleges in marketing, program implementation, internal policies and procedures, and developing customized training for the workplace.
- The Contract Education Statewide Projects Subcommittee developed and published a series of articulated steps for local practitioners to use in developing customized training. They also prepared a manual for training providers as well as sample contracts and subcontracts for the Wells Fargo Bank project.
- Workplace Learning Resource Centers developed a format for statewide in-service training of faculty involved in customized workplace training through contract education programs. These ongoing sessions use materials, service experience, and methodologies developed and tested by the centers.
- Workplace Learning Resource staff identified improved models for conducting business needs assessments. They provided training to enable people to conduct the "Workplace Literacy Analysis" portion of the Comprehensive Adult Student Assessment System.
- The Workplace Learning Resources Committee continued to develop its resource bank of the latest techniques and technologies for adult learners. They provided workshops at colleges across the state to share this information with faculty members.
- The economic development network also provided in service training and professional development opportunities.

> Staff made numerous presentations, including: CCCAOE Fall Conference, the Chancellor's Office Conference, the Academic Senate Spring Session, California Association of Teachers of English as a Second or Other Language, P.A.V.E. (Promoting Access in Vocational Education) workshops, and the TQM Conference for League for Innovation.

> Ed>Net hosted an economic development conference attended by more than 200 representatives of the California business, industry, goverment, and academic communities. It co-sponsored a total quality management conference with the national community college group, the League for Innovation, in February 1993. Four hundred people participated.

> Staff of the various centers made 51 presentations to local and statewide conferences on building the capacity of colleges and staff to deliver training.

Through the kinds of activities described above, the economic development program of the California Community Colleges helped build the capacity of individual colleges and districts across the state to develop, implement, and improve services to local business and industry. Stories of individuals and companies that benefited from these services during 1992-93 are told in our center section: Partnerships for Success.

Partners, Collaborators, and Contributors

Many companies, organizations, agencies, and individuals worked with the California Community Colleges in 1992-93 to improve the business climate and job opportunities within the state. Listed below are some of the many corporate partners who have collaborated on the wide variety of projects described in this report. (Names were provided by the colleges.) Besides cooperating with the colleges to share ideas, expertise, and strategies for improvement, these partners have assisted the colleges with advice, on-site training, equipment donations, materials, space, printing, and cash donations. Due to space constraints, it is not possible to list all corporate and individual partners who have made significant contributions. However, all participants are to be highly commended for their contributions to the state's economic development.

A

Adult Education Institute, CA Department of Education
Aero Tech Surveys, Inc.
Aerojet Headquarters
Agri-Pro International
AIA & Associates
Alameda City Economic Development Corp.
Alameda City/Hazardous Materials Division
Alameda County Economic Development Dept.
Alameda Park Street Business Assn.
Allied Signal
Alson Manufacturing
Amatrol Corp.
American Aerial Surveys
American Propane Assn.
AmTrade International Corp.
Anaheim Economic Development Council, Hospitality Task Force
Apple Computer, Southwest Operations
Arvin Development Corp.
Assemble in Mexico, Inc.
Assist International
Atari Games
Auburn Economic Development Corp.

B

B&H Mfg.
Baker, Manock & Jensen
Bakersfield Chamber of Commerce
Bakersfield Economic Development Corp.
Banco Nacional de Mexico (BANAMEX) Los Angeles Agency
Bank of America
Banque Nationale de Paris
Barney Aluminum
Bay Area Small Business Development Corp.
Beale Air Force Base
Beautyland, Inc.
Belden Engineering
Berkeley Economic Development Corp.
Black Business Alliance
Boeing
Borton Petrini
BP Chemicals (HITCO) Inc.
Broadway Animal Hospital
BROCO, Inc.
Bruce Rogers & Associates
Bureau of Export Administration
Burke & Associates
Burke, Willams & Sorensen
Business Enterprise Center
Business Improvement Assn.
Business Ownership Service System
Byer California

C

CA Department of Commerce
CA Department of Rehabilitation
CA Department of Social Services
CA Department of Toxic Substances Control
CA Employment Development Department
CA Office of State Fire Marshall Headquarter
CA Personnel Administration
CA Trade and Commerce Agency
CalComp
CALED
California Agricultural Technology Institute
California Agriculture Export Program
California Cartage Company, Inc.
California Central Coast World Trade Center Assn.
California Conservation Corps
California Council on Defense Industry Conversion and Technology Assessment
California Council on International Trade
California Employment Training Panel
California Escrow Assn.
California Export Finance Office
California Institute of Technology
California ORTA
California Republic Bank
California Southern Small Business Development Corp.
California State University, Fullerton, Management Dept.
California State University, Long Beach
California State University, Sacramento
California State University, San Bernardino
California State University, San Diego, Border Studies Dept.
California State University, San Diego, College of Business Administration
California State University System
California World Trade Commission
CALSEA
Caltrans
Camarillo Chamber of Commerce
Career Assessment & Placement Center
Cary Children
Castle & Cooke
Caterpillar, Inc.
CCCVCP (Procurement Center)
Cedars-Sinai Medical Center
Centec
Center for New Americans
Chamberlin Enterprises

Chapman College, School of Business
Child Care Employee Project
Chula Vista Chamber of Commerce
City of Chino Police Dept.
City of Clearlake
City of Delano
City of Downey
City of Duarte
City of Glendale
City of Huntington Beach
City of Modesto, Economic Development Dept.
City of Montebello
City of Montebello of Commerce
City of Oakland - Office of Economic Development & Employment
City of Rosemead
City of San Diego
City of San Diego, Economic Development Dept.
City of Shafter
City of Taft
City of Torrance
Clairol
Claude Laval Corp.
Clearlake Chamber of Commerce
Commercial Center Bank
Commission on Peace Officer Studies and Training
Comprehensive Home Care
CompuCare
Consortium for Workforce Education and Lifelong Learning, CSU San Diego College of Education
Contemporary Traditions
Continuous Improvement & Training Associates
Contra Costa County, Private Industry Council
Contra Costa County, Social Service Dept.
Cordova - WMBE Clearinghouse
Coronado Chamber of Commerce
Country Elegance
County EMS Agency
County of Alameda Purchasing
County of Lake Planning Dept.
County of San Diego, Dept. of District Affairs
County of San Diego, Dept. of Transborder Affairs
CSTI
CSUS Center for Small Business
Cummins California Pacific

D

D. Betti & Associates
Delaware North Co.
Deloitte & Touche
Delta Dental Plan of California
Design Impressions
DGR Environmental Chemistry
Donna Capozzi, Designer
Dow Western Research & Development
Downey Chamber of Commerce
Downtown Mainstreets
Downtown Sacramento Merchants Assn.
Duncan Enterprises
DynED

E

Economic Development Corp. of El Dorado County
Ed Garber and Associates
Eden Hospital
Edwards & Sons
El Dorado Chamber of Commerce
Elk Grove Adult Education
Elk Grove Chamber of Commerce
ERM-West, Inc.
Excelsior Auto
Export Management Assn.

F

Fairchild Aerospace
Far East National Bank
Federal Express
Federated Chamber of Commerce of Orange County
FHP, Inc
First Interstate Bank
Foster Farms
Fourth Dimension
Frame Technology
Freisleben & Co., Inc.
Fresno County Economic Development Corp.
Fritzi California

G

G.E. Plastics
Garden Grove Chamber of Commerce
Gaskill & Co.
Gateway Group, Inc.
Georgiou
German-American Chamber of Commerce
Gilroy Chamber of Commerce
Gilroy Downtown Development Corp.
Global Community College
Golden Gate University
Golden Rainbow
Great Lakes Composites Consortium
Greater Lakeport Chamber of Commerce
Greater San Diego Chamber of Commerce
Greater San Diego Economic Development Council
Greater Stockton Chamber of Commerce
GRG Engineering
Growth Marketing Associates Intl.
GTE California
Guarantee Shoe Store

H

Hacienda Business Park
Harris Corp.
Hayward Downtown Business Assn.
Hewlett Packard Andover Medical Products Group
Hewlett-Packard Co.
Highland Hospital
Hispanic Chamber of Commerce
Hoag Hospital
Hoechst Celanese
Holiday Hardware
Homelife Nursing, Inc.
Hoyt Shepston
Hughes Aircraft Co.
Hughson Nut
Human Resources Issues Analysis Group of Project California
Huntington Beach Chamber of Commerce
Hyatt Hotel
Hyundai Motor America

I

IE Congressional Caucus, Congressman George Brown's Office
Imperial Beach Chamber of Commerce
Industry Manufacturers Council
Intel Corp.
International Business Organization - CSU Sacramento
International Resource Center

International Trade Council
Irvine Medical Center
ISSC

J

J&R Associates
Japan Society
Japanese Weekend
Jesse Lord Bakery
Jet Propulsion Laboratory
Jones Mortuary
Jostens
Journal of Clinical Investigation
JPA
JTPA Assessment Centers

K

Kaiser Permanente Medical Care Program
Kern Community Development
Kern Economic Development Corp.
Kleinfelder, Inc.
Knobbe, Martens, Olsen & Bear
Knowledge Express Data Systems
Kovac Equipment Co.
KWIZ-FM

L

Lafili & Van Crombrugghe
Lake County Job Training Office
Lake County Marketing Program
Lam Research
Latin American Pacific Trade Assn.
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Leason Pomeroy Associates of Irvine
Levi Strauss
Litton
Livermore Mainstreet Program
Lockheed Corp.

M

MARC, Contra Costa County Office of Education
Mark Jones Couture
Mather Air Force Base
McClellan Air Force Base
McCormick, Barstow, Sheppard, Wayte & Carruth
McDonnell Douglas
Merced County Dept. of Economic Development
Metal Fab
Minority Business Development Center
Modesto Irrigation District
Monterey County Economic Development Corp.
Monterey Institute of International Studies
Morgan Hill Chamber of Commerce
Mr. Joseph Gougassian
Mr. Media
Musician's Union Local 47

N

Napa Chamber of Commerce
NASA Far West Regional Technology Transfer Center
NASBITE
National City Chamber of Commerce
NEDA Business Development Service
NEDA - Minority Business Development Corp.
Nevada City Hall
Nevada County Chamber of Commerce
Nevada County Economic Resource Council
New City Cleaners
Newport Corp.
North American Production Sharing
Northrop Corp., Aircraft Division

O

Oakland Business Development Corp.
Oakland Foreign Trade Zone
Office Depot
Office of Economic & Strategic Development
Orange County (Newport Beach) Dept. of Commerce
Orange County Cable News Network
Orange County Chamber of Commerce
Orange County Dept. of Social Services
Orange County Four
Orange County Labor Market Consortium
Orange County Social Services Agency
Orange County Workplace Literacy Consortium
Otay Mesa Chamber of Commerce
Oxnard Chamber of Commerce

P

Pacific Bell
Pacific Gas and Electric
Patternmaker
Patterson Frozen Foods
PDR Information Services
Penn State
Placer County Economic Development Corp.
Pleasant Valley/Oxnard Plan Economic Development
Pleasanton Chamber of Commerce
Port of Sacramento
Portsmouth Financial
Precision Metal Works, Inc.
Price Club
Private Industry Council of Imperial Valley
Prudential California Residential Real Estate Brokerage
Prudential Rodeo Realty
Pt. Hueneme Chamber of Commerce
Pyramid Technologies

Q

Queen of the Valley Hospital

R

RAM Environmental Engineering Service, Inc.
Rapid Transit District
Raychem Corp.
Reading Program of Adults
Regional Economic Development, Inc.
Right-O-Way Transportation, Inc.
Riverside County Economic Development Agency
Rocketdyne
Rosemead Chamber of Commerce
Rubbermaid Office Products

S

S.C.O.R.E.
Sacramento Bee
Sacramento Chamber of Commerce
Sacramento County, Department of Public Works
Sacramento Disabled Veterans Business Enterprise Network
Safeguard Business Systems
Salinas Chamber of Commerce
San Benito County Economic Development Corp.

San Bernardino County Economic Development Corp.
San Diego Business Innovation Center
San Diego County Sexual Assault Response Team Committee
San Diego Economic Development Corp.
San Diego Economic Development Services
San Diego Fire Dept.
San Diego MBDC
San Francisco City Lights
San Francisco Fashion Industries
San Francisco General Hospital
San Francisco Marriott
San Joaquin Bank
San Ysidro Chamber of Commerce
Sandia National Laboratory
Santa Ana Chamber of Commerce
Santa Ana Economic Development Agency
Santa Ana Private Industry Council
Santa Ana Unified School District
Santa Barbara Assn. of Realtors
Santa Barbara Bank & Trust
Schlage Lock
Science Applications International Corp.
Service Delivery Area for South Bay
Shafter Economic Development Dept.
Shearson-Lehman Securities Co.
Shepherd Machinery
Sierra Economic Development District
Sierra Family Services
Signa Enterprises
Skyway Engineering Inc.
Smith-Barney Securities Co.
Solano Economic Development Corp.
Sonoma Chamber of Commerce
South Bay Service Center
South County Economic Development Corp.
Southeast Economic Development Corp.
Southern California Coordination Council
Southern California Edison
Southern California Gas Co.
Specialize Auto System
Spring Valley Chamber of Commerce
Star Master, Sports/Medical Products, Inc.
Stanford University
State Coordinator of PHTLS
Stereotype Sound
Stouffer's Stanford Court Hotel
SunLine Transit Agency
Syntex Corp.
Syva Co.

T

Taft Economic Development Dept.
Technical Data Corp.
Ted Kipping Tree Shapers
TeleSensory Systems
Terra West
The Bonita Business and Professional Assn.
The Bookkeepers
The Entrepreneur's Consultant
The Gap, Inc.
Trousdale Organ
Truckee River Bank
TRW

U

U.S. Agency for International Development
U.S. Bank
U.S. Bid Directory
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of Commerce, Foreign Trade Office
U.S. Department of Commerce, International Trade Administration
U.S. Department of Defense
U.S. Department of Education
U.S. Department of Energy
U.S. Department of Labor
U.S. EXIM Bank
U.S. Small Business Administration
Union City Chamber of Commerce
Union Transport
United Food & Commercial Workers International Union
United Parcel Service
University Center for Economic Development and Planning, Chico
University of California, Davis
University of California, Davis, Extension Hazardous Materials Management Program
University of California, Irvine
University of California, Riverside
University of California, San Diego, Connect
University of California, San Diego, Manufacturing Extension Program
University of California, San Francisco Medical Center
University of Indiana
University of LaVerne
University of Redlands, International Business Dept.
University of Southern California
University of Texas
University of the Pacific

V

Valley Detroit Diesel
Valley Sierra SBDC - Merced
Valley Sierra SBDC - Modesto
Ventura County Economic Development Assn.
Ventura County Economic Development Consortium
Vietnamese Chamber of Commerce

W

W.J. Byrnes & Co.
Wells Fargo Bank
Wells General Aviation
West Sacramento Chamber of Commerce
West Sacramento Economic Development Dept.
William Blanton T-Shirt Clothing Store
Winters Chamber of Commerce
Women Business Network
Women In International Trade
Women's Initiative for Self-Employment
Woodland Chamber of Commerce
World Trade Assn. of Orange County
World Trade Center of San Francisco
World Trade Services

X

Xerox Corp.

Y

Y.W.C.A.
Yolo Federal Credit Union

Z

Zack Apparel
Zical Corp.

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